

**Title of Instructional Materials:** Key Curriculum Press: Discovering Advanced Algebra

**Grade Level:** Algebra II

## Summary of Key Curriculum Press: Discovering Advanced Algebra

<p><b>Overall Rating:</b> <input type="checkbox"/> Weak (1-2)</p> <p><input checked="" type="checkbox"/> Moderate (2-3)</p> <p><input type="checkbox"/> Strong (3-4)</p> <p><b>Summary / Justification / Evidence:</b> Missing the following standards: A-APR.1, A-APR.7, N-CN.9 (only indirectly). Some of the other standards are only alluded to and not well developed.</p>	<p>Important Mathematical Ideas: <input type="checkbox"/> Weak (1-2)</p> <p><input type="checkbox"/> Moderate (2-3)</p> <p><input checked="" type="checkbox"/> Strong (3-4)</p> <p><b>Summary / Justification / Evidence:</b> A wide range of how well the important mathematical ideas were developed. Some were extremely well developed with the investigations, but some were only briefly mentioned.</p>
<p>Skills and Procedures: <input type="checkbox"/> Weak (1-2)</p> <p><input checked="" type="checkbox"/> Moderate (2-3)</p> <p><input type="checkbox"/> Strong (3-4)</p> <p><b>Summary / Justification / Evidence:</b> Many instances of just "show me the skill" type problems and not well integrated problems.</p>	<p>Mathematical Relationships: <input type="checkbox"/> Weak (1-2)</p> <p><input checked="" type="checkbox"/> Moderate (2-3)</p> <p><input type="checkbox"/> Strong (3-4)</p> <p><b>Summary / Justification / Evidence:</b> Several were not developed well or only mentioned with little or no discussion.</p>

<b>1. Make sense of problems and persevere in solving them.</b>	
<p>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.</p>	
<b>Indicate the chapter(s), section(s), and/or page(s) reviewed:</b>	<b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>
<b>Summary / Justification / Evidence:</b>	<b>Overall Rating:</b> <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4

**2. Reason abstractly and quantitatively.**

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

**Indicate the chapter(s), section(s), and/or page(s) reviewed:****Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):****Summary / Justification / Evidence:****Overall Rating:**☐1   ☐2   ☒3   ☐4

### 3. Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

**Indicate the chapter(s), section(s), and/or page(s) reviewed:**

**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**

**Summary / Justification / Evidence:**

**Overall Rating:**

☐ 1   ☐ 2   ☒ 3   ☐ 4

#### 4. Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

**Indicate the chapter(s), section(s), and/or page(s) reviewed:**

**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**

**Summary / Justification / Evidence:**

**Overall Rating:**

☐ 1☐ 2☐ 3☒ 4

**5. Use appropriate tools strategically.**

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

**Indicate the chapter(s), section(s), and/or page(s) reviewed:****Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):****Summary / Justification / Evidence:****Overall Rating:**☐ 1☐ 2☐ 3☒ 4

**6. Attend to precision.**

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

**Indicate the chapter(s), section(s), and/or page(s) reviewed:****Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):****Summary / Justification / Evidence:****Overall Rating:**☐ 1☐ 2☒ 3☐ 4



**7. Look for and make use of structure.**

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see  $7 \times 8$  equals the well-remembered  $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression  $x^2 + 9x + 14$ , older students can see the 14 as  $2 \times 7$  and the 9 as  $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see  $5 - 3(x - y)^2$  as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers  $x$  and  $y$ .

**Indicate the chapter(s), section(s), and/or page(s) reviewed:****Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):****Summary / Justification / Evidence:****Overall Rating:**☐ 1   ☐ 2   ☒ 3   ☐ 4

**8. Look for and express regularity in repeated reasoning.**

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation  $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding  $(x - 1)(x + 1)$ ,  $(x - 1)(x^2 + x + 1)$ , and  $(x - 1)(x^3 + x^2 + x + 1)$  might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

**Indicate the chapter(s), section(s), and/or page(s) reviewed:****Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):****Summary / Justification / Evidence:****Overall Rating:**☐ 1☐ 2☒ 3☐ 4

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

Key Curriculum Discovering  
Advanced Algebra

## Documenting Alignment to the Standards for Mathematical Practice

Investigations are Good Each section has a

1. Make sense of problems and persevere in solving them.

Small amt of practice problems but a  
lot of reason + apply problems. This may  
force S's to do more word problems.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Students complete the investigation to learn about a potential business.  
S's collect data, graph & then model the data using a geometric sequence.  
They evaluate & adjust their model.

Indicate the chapter(s), section(s), or page(s) reviewed.

p252, Sec 5.1 Investigation  
problems 5, 6, 7, 10, 11

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Key Curriculum

## Documenting Alignment to the Standards for Mathematical Practice

### 2. Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

S's use the context to write an expression, then  
use symbolic manipulation to answer questions.  
S's use tables & graphs to make sense of relationships.

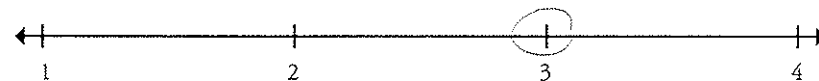
Indicate the chapter(s), section(s), or page(s) reviewed.

Sec 5.4

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

Key Curriculum

## Documenting Alignment to the Standards for Mathematical Practice

### 3. Construct viable arguments and critique the reasoning of others.

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S's must choose 2 ways for estimating the area in which the populations were the same in the investigation. In the exercises, S's are asked to justify & explain their answers.

Indicate the chapter(s), section(s), or page(s) reviewed.

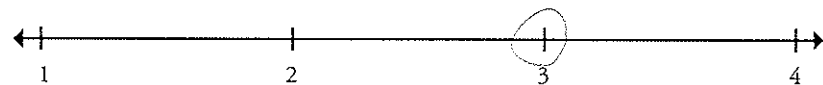
p 162: Investigation Trends

p164: 7c, 8b, 8d, 9c

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

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S's explore & model a variety of contexts in the exercises.  
The Income by Gender Project provides an opportunity for  
S's to gather data, identify a relationship to model,  
& analyze & assess their model.

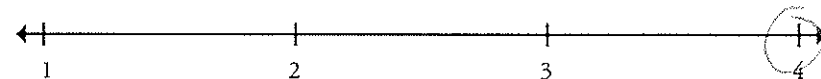
Indicate the chapter(s), section(s), or page(s) reviewed.

Sec 5.8

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

Key Curriculum

## Documenting Alignment to the Standards for Mathematical Practice

### 5. Use appropriate tools strategically.

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In ExB, S's use a G.C. to test & refine the model. In Ex 6, 12, 14 (p227-228), S's explore dilations + translations, given a model, they verify their results graphically & algebraically.

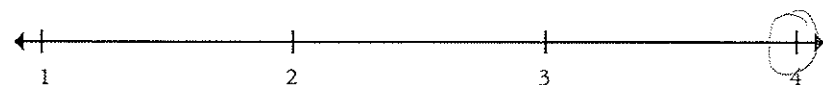
Indicate the chapter(s), section(s), or page(s) reviewed.

Lesson 4.6 p221

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 6. Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

p 94 - "A Good Design" Investigation has to use precision in accuracy. The student analyzes from how a team ask themselves how would they mean to use these premises in a report on it.

Indicate the chapter(s), section(s), or page(s) reviewed.

p 94 Investigation

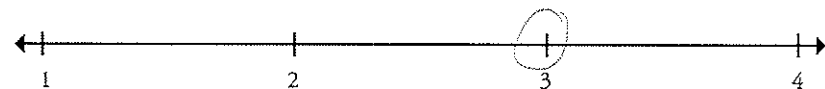
sec 2.2

Also

Summary/Justification/Evidence

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Overall Rating





Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

*Key Curriculum*

## Documenting Alignment to the Standards for Mathematical Practice

### 7. Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see  $7 \times 8$  equals the well remembered  $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression  $x^2 + 9x + 14$ , older students can see the 14 as  $2 \times 7$  and the 9 as  $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see  $5 - 3(x - y)^2$  as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers  $x$  and  $y$ .

*S's recognize the role of each coefficient in a quadratic eg d become coefficient at converting between general & standard form.*

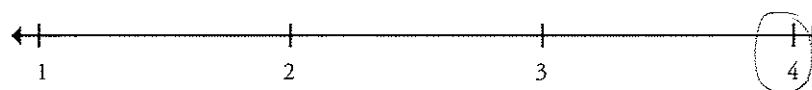
Indicate the chapter(s), section(s), or page(s) reviewed.

*Sec 8.3 p481*

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 8. Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation  $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding  $(x - 1)(x + 1)$ ,  $(x - 1)(x^2 + x + 1)$ , and  $(x - 1)(x^3 + x^2 + x + 1)$  might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

p 526: Investigation, 5's move from a concrete example to the derivation of the formula for the sum of a convergent infinite geometric series.

Indicate the chapter(s), section(s), or page(s) reviewed.

p 525' Sec 9.2 Infinite Geometric Series

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

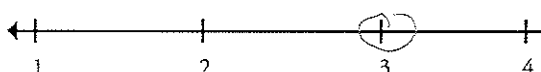
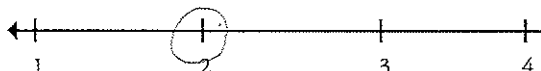

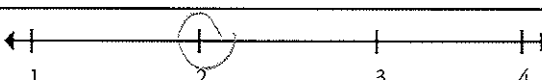
Summary/Justification/Evidence

Overall Rating



## Key Curriculum

## The Complex Number System (N-CN)

<b>Perform arithmetic operations with complex numbers.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>N-CN.1</b> Know there is a complex number $i$ such that $i^2 = -1$ , and every complex number has the form $a + bi$ with $a$ and $b$ real.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures   <i>Very few practice problem</i></p> <p>Mathematical Relationships   <i>No word problem</i></p> <p><b>Summary / Justification / Evidence</b>  <i>They did have S's construct a Venn diagram</i></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p>          <p><b>Overall Rating</b> </p>
<b>Indicate the chapter(s), section(s), and/or page(s) reviewed.</b> <i>sec 7.5</i>	

Title of Instructional Materials: \_\_\_\_\_

### The Complex Number System (N-CN)

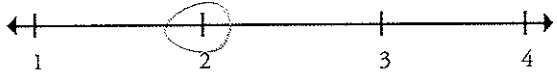
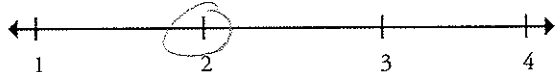

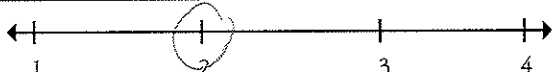
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Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Key Curriculum

## ALGEBRA II — NUMBER AND QUANTITY (N)

### The Complex Number System (N-CN)

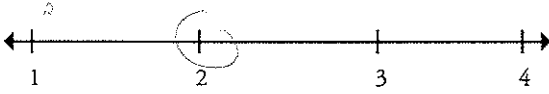
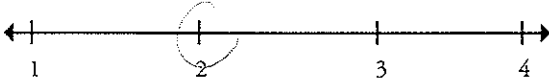
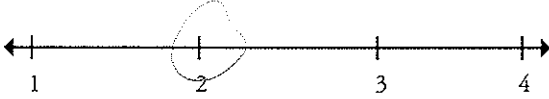

Use complex numbers in polynomial identities and equations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>N-CN.7</b> Solve quadratic equations with real coefficients that have complex solutions. Note: Polynomials with real coefficients.</p> <p>The example tells students they can solve using the QF but it only shows an example by isolating <math>x^2</math> &amp; taking the sq root.</p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p>7.5</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence Only 5 HW problems (p413) &amp; 3 regular the QF</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

# ALGEBRA II — NUMBER AND QUANTITY (N)

## The Complex Number System (N-CN)

<p>Use complex numbers in polynomial identities and equations.</p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p>
<p><b>N-CN.8</b></p> <p>(+) Extend polynomial identities to the complex numbers. <i>For example, rewrite <math>x^2 + 4</math> as <math>(x + 2i)(x - 2i)</math>.</i></p> <p>Note: Polynomials with real coefficients.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
<p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p><i>Sec 7.5 # 6, 11, 12</i></p> <p><i>no explanations or how in rewriting in general form</i></p>	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>

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## Key Curriculum

## ALGEBRA II — NUMBER AND QUANTITY (N)

## The Complex Number System (N-CN)

**Use complex numbers in polynomial identities and equations.**

N-CN.9

(+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.

Note: Polynomials with real coefficients.

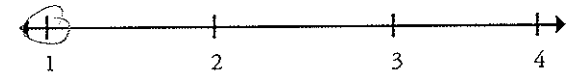
5's are asked to use the  
zeros to graph a function

Indicate the chapter(s), section(s), and/or page(s) reviewed.

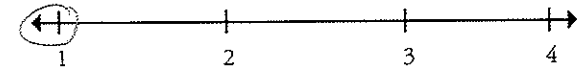
7.7

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

### Important Mathematical Ideas



## Skills and Procedures



## Mathematical Relationships



### Summary / Justification / Evidence

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

The Fundamental Thm of Alg is not stated.

Overall Rating



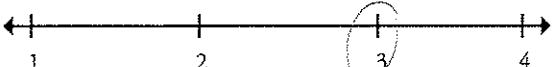
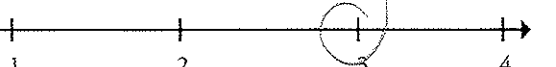


Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — ALGEBRA (A)

### Seeing Structure in Expressions (A-SSE)

<p><b>Interpret the structure of expressions.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>A-SSE.1a</b></p> <p>1. Interpret expressions that represent a quantity in terms of its context.*</p> <p>a. Interpret parts of an expression, such as terms, factors, and coefficients.</p> <p>Note: Polynomial and rational.</p> <p><i>3,2 - Parts of slope-int form eg (<math>y=a+bx</math>)</i>  <i>3,3 - Point-slope form <math>y=y_1+b(x-x_1)</math></i>  <i>5,1 - Exp Function <math>y=ab^x</math></i>  <i>5,8 - Log Eg</i>  <i>7,2 - 3 Forms of Quadratic Function</i></p> <p><b>Indicate the chapter(s), section(s), and/or page(s) reviewed.</b></p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><i>"b" is used for slope instead of "m"</i>  <i>pt-slope form - different</i></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

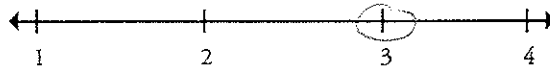
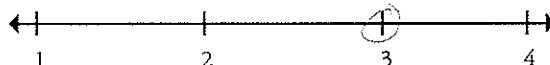




Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Key Curriculum

## ALGEBRA II — ALGEBRA (A)

### Seeing Structure in Expressions (A-SSE)

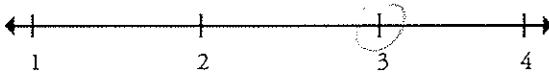
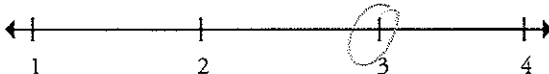
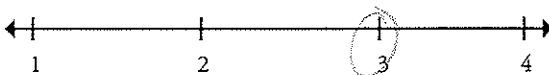

Interpret the structure of expressions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-SSE.1b</b></p> <p>1. Interpret expressions that represent a quantity in terms of its context.*</p> <p>b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret <math>P(1+r)^n</math> as the product of <math>P</math> and a factor not depending on <math>P</math>.</p> <p>Note: Polynomial and rational.</p> <p>4.7: eg of unit circle <math>x^2 + y^2 = 1</math>  <math>y = \pm \sqrt{1-x^2}</math></p> <p>5.8: Logs</p> <p>7.7: polynomial eg: in factored form &amp; standard form</p> <p>8.6: rational function</p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p>Transformations are done very differently.  Each eg is not solved for <math>y</math>.  <math>y - k = f(x - h)</math></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — ALGEBRA (A)

### Seeing Structure in Expressions (A-SSE)

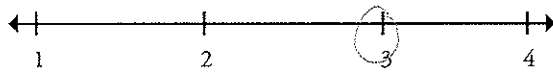
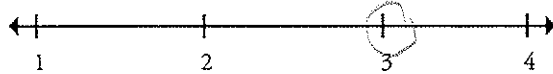
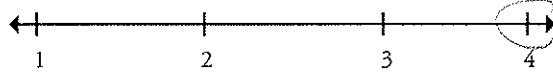
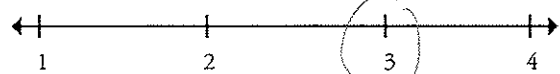
Interpret the structure of expressions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-SSE.2</b></p> <p>Use the structure of an expression to identify ways to rewrite it. <i>For example, see <math>x^4 - y^4</math> as <math>(x^2)^2 - (y^2)^2</math>, thus recognizing it as a difference of squares that can be factored as <math>(x^2 - y^2)(x^2 + y^2)</math>.</i></p> <p>Note: Polynomial and rational.</p> <p>5.7: Logs Ex 3: Rewrite Exp function as logs  7.2: Equivalent forms of Quad Functions Ex 5, 7  7.8: Ex 12: Sum or diff of Sq / Cubes  13.6: Find trig Identities Ex 13 + 14</p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Key Curriculum

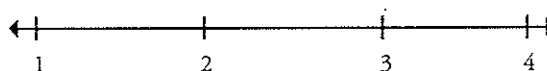
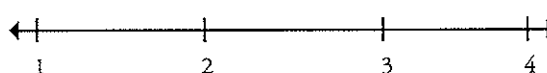
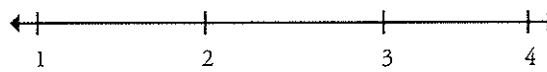

**ALGEBRA II — ALGEBRA (A)**

**Seeing Structure in Expressions (A-SSE)**

Write expressions in equivalent forms to solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-SSE.4</b></p> <p>Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. <i>For example, calculate mortgage payments.*</i></p> <p><i>9.2 : Infinite Sums</i>  <i>9.3: Partial Sum - Investigating</i>  <i>Geo Series Formula - Investigator</i>  <i>p 533</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><i>u, instead of a, for the first term</i></p> <p><b>Overall Rating</b> </p>

Title of Instructional Materials: \_\_\_\_\_

## Arithmetic with Polynomials and Rational Expressions (A-APR)

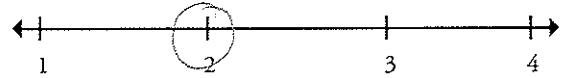
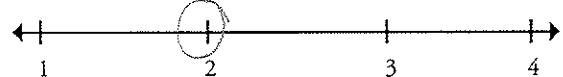


<b>Perform arithmetic operations on polynomials.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>A-APR.1</b> Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.  <i>Note: Beyond quadratic.</i>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p><b>Summary / Justification / Evidence</b></p>
Indicate the chapter(s), section(s), and/or page(s) reviewed.	<p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p style="text-align: center;">closure is not talked about in this book</p>
	<p>Overall Rating </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Key Curriculum

**ALGEBRA II — ALGEBRA (A)**

**Arithmetic with Polynomials and Rational Expressions (A-APR)**

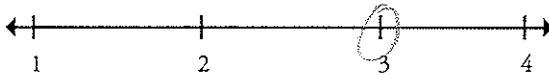
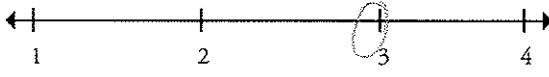
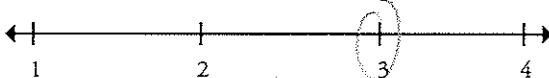
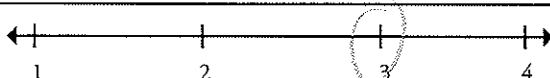
Understand the relationship between zeros and factors of polynomials.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-APR.2</b></p> <p>Know and apply the Remainder Theorem: For a polynomial <math>p(x)</math> and a number <math>a</math>, the remainder on division by <math>x - a</math> is <math>p(a)</math>, so <math>p(a) = 0</math> if and only if <math>(x - a)</math> is a factor of <math>p(x)</math>.</p> <p><i>7.8: The Factor Thm is given ex 7.8, 9</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p><i>not many word problems</i></p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — ALGEBRA (A)

### Arithmetic with Polynomials and Rational Expressions (A-APR)

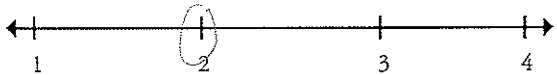
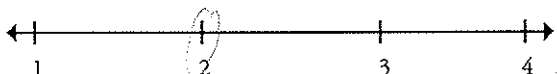

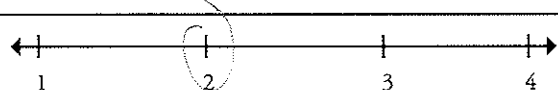
<p><b>Understand the relationship between zeros and factors of polynomials.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>A-APR.3</b></p> <p>Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.</p> <p><i>7.6: Factoring Polynomials: Given a graph, the student will write the factored form of a polynomial function; write polynomials in factored form, identifying zeros. Ex 1-9</i></p> <p><i>7.7: Graph polynomial functions when in factored form. Ex 1-7</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Key Curriculum

**ALGEBRA II — ALGEBRA (A)**

**Arithmetic with Polynomials and Rational Expressions (A-APR)**

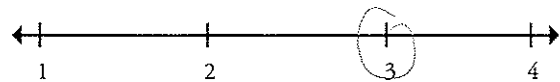



Use polynomial identities to solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-APR.4</b></p> <p>Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity <math>(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2</math> can be used to generate Pythagorean triples.</p> <p>7.3 completing the sq ex 3</p> <p>7.8 ex 12 mini investigation - sum or diff of sq/cubes</p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p>
	<p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — ALGEBRA (A)

### Arithmetic with Polynomials and Rational Expressions (A-APR)

<p>Use polynomial identities to solve problems.</p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p>
<p><b>A-APR.5</b></p> <p>(+) Know and apply the Binomial Theorem for the expansion of <math>(x + y)^n</math> in powers of <math>x</math> and <math>y</math> for a positive integer <math>n</math>, where <math>x</math> and <math>y</math> are any numbers, with coefficients determined for example by Pascal's Triangle.<sup>1</sup></p> <p><i>Sec 10.7: p604 - Binomial Thm p602 - Pascal's Δ</i></p> <p><sup>1</sup> The Binomial Theorem can be proved by mathematical induction or by a combinatorial argument.</p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

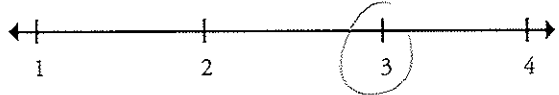
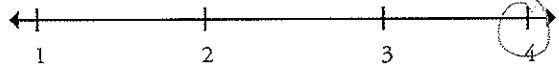

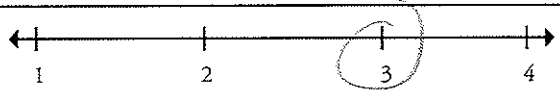


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Title of Instructional Materials: Key Curriculum

**ALGEBRA II — ALGEBRA (A)**

**Arithmetic with Polynomials and Rational Expressions (A-APR)**


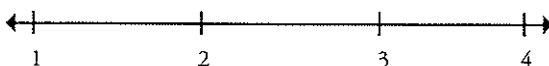

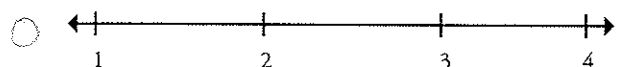
<p><b>Rewrite rational expressions.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>A-APR.6</b></p> <p>Rewrite simple rational expressions in different forms; write <math>a(x)/b(x)</math> in the form <math>q(x) + r(x)/b(x)</math>, where <math>a(x)</math>, <math>b(x)</math>, <math>q(x)</math>, and <math>r(x)</math> are polynomials with the degree of <math>r(x)</math> less than the degree of <math>b(x)</math>, using inspection, long division, or, for the more complicated examples, a computer algebra system.</p> <p>Note: Linear and quadratic denominators.</p> <p><i>Sec 8.6 Ex A p492</i></p> <p><i>Sec 8.7 Graphing - rewrite infactored form</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><i>p495: Reason + Apply Section is good</i></p>
	<p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — ALGEBRA (A)

### Arithmetic with Polynomials and Rational Expressions (A-APR)


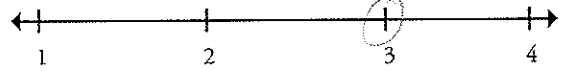
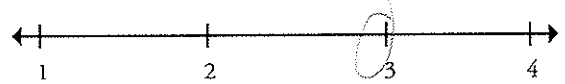

<p>Rewrite rational expressions.</p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p>
<p><b>A-APR.7</b></p> <p>(+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.</p> <p>Note: Linear and quadratic denominators.</p> <p style="text-align: center;">8.6</p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p style="text-align: center;">Operations of Rational Expressions Closed under all operations</p> <p>Overall Rating </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Key Curriculum

## ALGEBRA II — ALGEBRA (A)

### Creating Equations (A-CED)



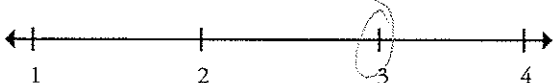
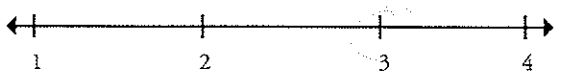
Create equations that describe numbers or relationships.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-CED.1</b></p> <p>Create equations and inequalities in one variable and use them to solve problems. <i>Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*</i></p> <p>Note: Equations using all available types of expressions, including simple <u>root</u> functions.</p> <p>Sec 3.1: Linear Eg Ex 6, 7, 8            3.2: Ex 10 (Scatter plots → linear eq)            Sec 5.1: Exponential Functions Ex 11 &amp; 12            Sec 5.6: Log models 7-9            Sec 7.2: Quadratic Ex 8-10            Sec 8.6: Rational: Ex 8:</p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <i>Root Functions, inequalities</i></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — ALGEBRA (A)

### Creating Equations (A-CED)


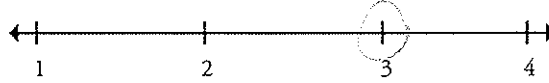
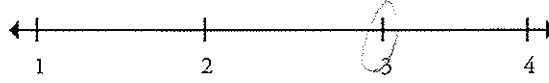

Create equations that describe numbers or relationships.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-CED.2</b></p> <p>Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.*</p> <p>Note: Equations using all available types of expressions, including simple root functions.</p> <p><i>Sec 3.1: Linear eq Ex 6-12</i>  <i>Sec 3.3: Write &amp; graph linear eq Ex 2-10</i>  <i>Sec 5.1: Exp Functions Write &amp; graph Ex: 5-12</i>  <i>Sec 5.6: Write &amp; graph log Functions 1-9</i>  <i>Sec 7.2: Quad Funct Ex 1-12</i>  <i>Sec 8.6: Write &amp; graph Rational Functions</i>  <i>Sec 13.3 &amp; 5: Graphs of Sin Functions</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <i>Root Functions</i></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Key Curriculum

## ALGEBRA II — ALGEBRA (A)

### Creating Equations (A-CED)

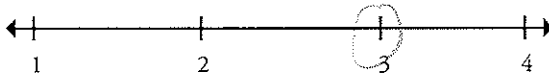
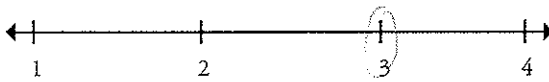

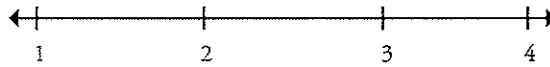
Create equations that describe numbers or relationships.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-CED.3</b></p> <p>Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. <i>For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*</i></p> <p>Note: Equations using all available types of expressions, including simple root functions.</p> <p><i>Sec 3.6 + 3.7: Sys of Eq Battery Ex p 171</i></p> <p><i>Sec 6.3: Solving S of E using Matrices 6.4 6.5: System of Inequality with constraint 6.6 linear programming EX 1-10</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — ALGEBRA (A)

### Creating Equations (A-CED)

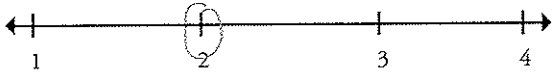


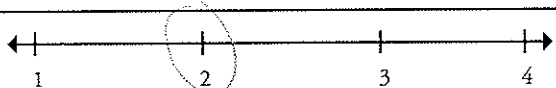
Create equations that describe numbers or relationships.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-CED.4</b></p> <p>Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. <i>For example, rearrange Ohm's law <math>V = IR</math> to highlight resistance <math>R</math>.</i>*</p> <p>Note: Equations using all available types of expressions, including simple root functions.</p> <p><i>Sec 3.7 #10 (Direct problem)</i>  <i>Sec 4.5 #13 (Application problem)</i>  <i>Sec 5.3 #13 (Application problem)</i>  <i>Sec 5.5 #11 (Application problem)</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>

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Title of Instructional Materials: Key Curriculum

## ALGEBRA II — ALGEBRA (A)

### Reasoning with Equations and Inequalities (A-REI)

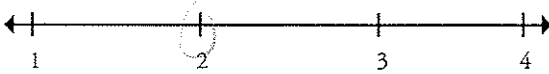


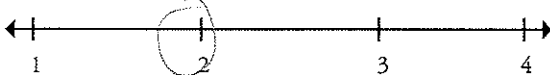
<p>Understand solving equations as a process of reasoning and explain the reasoning.</p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p>
<p><b>A-REI.2</b></p> <p>Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.</p> <p>Note: Simple radical and rational.</p> <p><i>Sec 4.5; sq root functions &amp; extraneous solutions ex 15</i></p> <p><i>Sec 8.6 &amp; 8.7 p 503 #12</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p><i>not many examples</i></p>
	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — ALGEBRA (A)

### Reasoning with Equations and Inequalities (A-REI)

Represent and solve equations and inequalities graphically.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>A-REI.11</b></p> <p>Explain why the x-coordinates of the points where the graphs of the equations <math>y = f(x)</math> and <math>y = g(x)</math> intersect are the solutions of the equation <math>f(x) = g(x)</math>; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where <math>f(x)</math> and/or <math>g(x)</math> are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*</p> <p>Note: Combine polynomial, rational, radical, absolute value, and exponential functions.</p> <p><i>Sec 3.6: Ex 6-11 Linear</i>  <i>Sec 2.7 # 9 (linear/quadratic/system of equations)</i>  <i>Sec 5.6 # 7, 8, 9 Log</i>  <i>Sec 4.6: p 226 # 5 Absolute Value</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><i>Not many examples</i></p> <p><b>Overall Rating</b> </p>



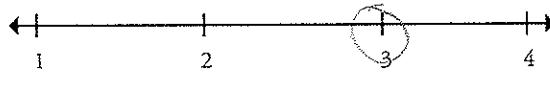



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Title of Instructional Materials: Key Curriculum

## ALGEBRA II — FUNCTIONS (F)

### Interpreting Functions (F-IF)

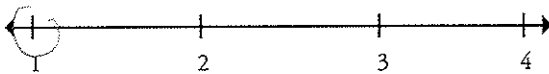

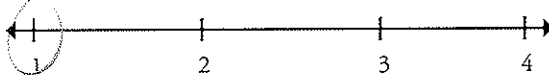
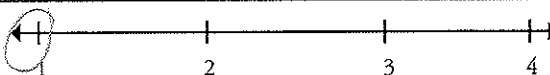
Interpret functions that arise in applications in terms of the context.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>F-IF.4</b></p> <p>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <i>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*</i></p> <p>Note: Include rational, square root and cube root; emphasize selection of appropriate models.</p> <p><i>Sec 4.1: Interpreting Graphs</i>  <i>Sec 7.2 &amp; 7.3: max/min of quad functions</i>  <i>7.7: End behavior, max/min, inc/dec,</i>  <i>8.7: rational functions: holes &amp; asym</i>  <i>13.3 &amp; 13.5: periodicity</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <i>eg root &amp; cube root?</i></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — FUNCTIONS (F)

### Interpreting Functions (F-IF)

Interpret functions that arise in applications in terms of the context.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>F-IF.5</b></p> <p>Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. <i>For example, if the function <math>h(n)</math> gives the number of person-hours it takes to assemble <math>n</math> engines in a factory, then the positive integers would be an appropriate domain for the function.*</i></p> <p>Note: Emphasize selection of appropriate models.</p> <p><i>Sec 3.2 p 135 PB what is domain (linear)</i></p> <p><i>Sec 4.8: p 242: #8 what is domain (secret absent, 3rd)</i></p> <p><i>Sec 13.1: Graph given a certain Domain (trig)</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p><i>Not specific examples - parent family only</i></p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p><i>Everything, should have the domain stated</i></p> <p>Overall Rating </p>

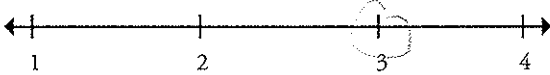
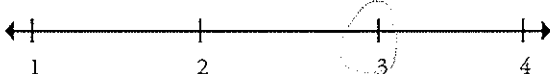

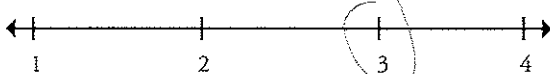
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Title of Instructional Materials: \_\_\_\_\_

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## ALGEBRA II — FUNCTIONS (F)

### Interpreting Functions (F-IF)

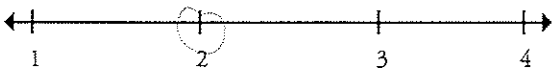
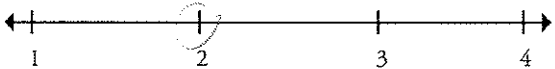
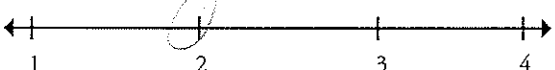
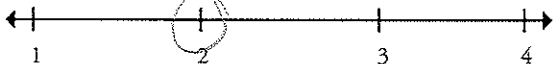
Interpret functions that arise in applications in terms of the context.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>F-IF.6</b></p> <p>Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.*</p> <p>Note: Emphasize selection of appropriate models.</p> <p><i>Sec 3.1: #5, #11, #12</i></p> <p><i>Sec 3.2: #1, #7-12</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — FUNCTIONS (F)

### Interpreting Functions (F-IF)

<p><b>Analyze functions using different representations.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>F-IF.7b</b></p> <p>7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*</p> <p>b. Graph square root, cube root, and piecewise-defined functions, including <u>step functions</u> and <u>absolute value functions</u>.</p> <p>Note: Focus on using key features to guide selection of appropriate type of model function.</p> <p><i>Sec 4.2: p197 Step Function Project (only one example?)</i></p> <p><i>Sec 4.5: sq root, piecewise</i></p> <p><i>Sec 4.6: Absolute Value</i></p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
<p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><i>Very few examples</i></p>
	<p>Overall Rating </p>

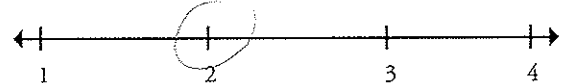
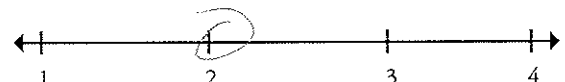
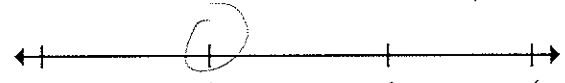
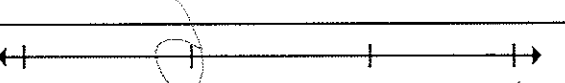
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Title of Instructional Materials: \_\_\_\_\_

*Key Curriculum*

## ALGEBRA II — FUNCTIONS (F)

### Interpreting Functions (F-IF)


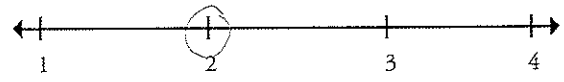

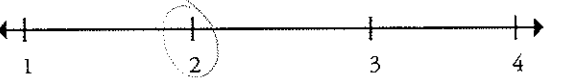
Analyze functions using different representations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>F-IF.7c</b></p> <p>7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*</p> <p>c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.</p> <p>Note: Focus on using key features to guide selection of appropriate type of model function.</p> <p><i>Sec 7.7 p 427 # 6</i>  <i>graph, identify zeros,</i>  <i>end behavior</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p><i>technology to graph</i></p> <p>Overall Rating </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — FUNCTIONS (F)

### Interpreting Functions (F-IF)

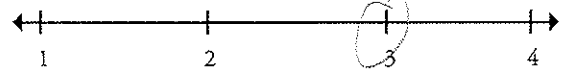

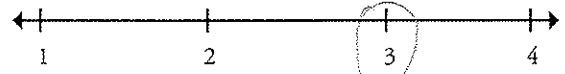
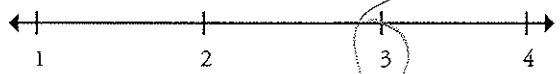
Analyze functions using different representations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>F-IF.7e</b></p> <p>7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*</p> <p>e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.</p> <p>Note: Focus on using key features to guide selection of appropriate type of model function.</p> <p><i>Sec 5.1 - graph simple exp fun using a G.C.</i>  <i>5.4</i>  <i>5.6 - p290:4</i>  <i>13.3 &gt; sketch trig functions showing period, midline, and amplitude</i>  <i>13.5</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <i>use a G.C</i></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Key Curriculum

## ALGEBRA II — FUNCTIONS (F)

### Interpreting Functions (F-IF)

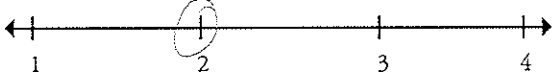
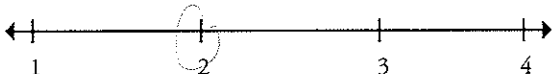


Analyze functions using different representations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>F-IF.8a</b></p> <p>8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.</p> <p>a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.</p> <p>Note: Focus on using key features to guide selection of appropriate type of model function.</p> <p><i>Sec 7.2</i></p> <p><i>Sec 7.3</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — FUNCTIONS (F)

### Interpreting Functions (F-IF)

Analyze functions using different representations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>F-IF.8b</b></p> <p>8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.</p> <p>b. Use the properties of exponents to interpret expressions for exponential functions. <i>For example, identify percent rate of change in functions such as <math>y = (1.02)^t</math>, <math>y = (0.97)^t</math>, <math>y = (1.01)^{12t}</math>, <math>y = (1.2)^{t/10}</math>, and classify them as representing exponential growth or decay.</i></p> <p>Note: Focus on using key features to guide selection of appropriate type of model function.</p> <p><i>Sec 5.1 p 254: Growth &amp; Decay #6</i></p> <p><i>Sec 5.4 p 277 #5 decay</i></p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p><i>Not many examples</i></p> <p>Overall Rating </p>
<p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	



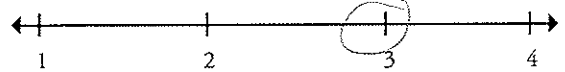
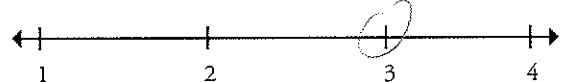
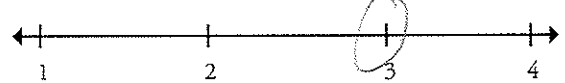
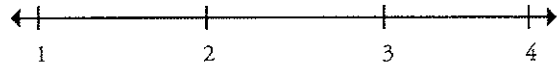
Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

*Key Curriculum*

## ALGEBRA II — FUNCTIONS (F)

### Interpreting Functions (F-IF)

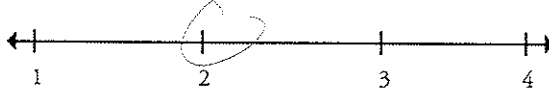
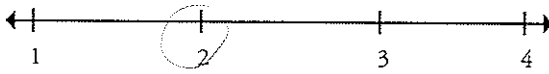


Analyze functions using different representations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>F-IF.9</b></p> <p>Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). <i>For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.</i></p> <p>Note: Focus on using key features to guide selection of appropriate type of model function.</p> <p><i>Sp. 3.1 Linear</i>  <i>4.4 quadratic</i>  <i>5.1 Exp</i>  <i>7.2 Equivalent Quad Forms</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — FUNCTIONS (F)

### Building Functions (F-BF)

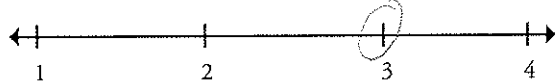

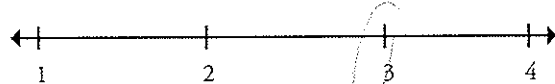

<p><b>Build a function that models a relationship between two quantities.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>F-BF.1b</b></p> <p>1. Write a function that describes a relationship between two quantities.*</p> <p>b. Combine standard function types using arithmetic operations. <i>For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.</i></p> <p>Note: Include all types of functions studied.</p> <p><i>Sec 5.4 : # 4-8</i></p> <p><i>Sec 13.7 : # combining trig functions</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><i>Not many examples</i></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Ken Curriculum

## ALGEBRA II — FUNCTIONS (F)

### Building Functions (F-BF)





Build new functions from existing functions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>F-BF.3</b></p> <p>Identify the effect on the graph of replacing <math>f(x)</math> by <math>f(x) + k</math>, <math>k f(x)</math>, <math>f(kx)</math>, and <math>f(x + k)</math> for specific values of <math>k</math> (both positive and negative); find the value of <math>k</math> given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. <i>Include recognizing even and odd functions from their graphs and algebraic expressions for them.</i></p> <p>Note: Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types.</p> <p>4.4 - Quad p 209 #1-4, 6-8            4.5 - Sq Root p 216 #1, 2, 5, 6-11            4.6 Absolute Value p 226 #1, 2, 4, 5, 7-10            5.1 Exponential p 257 #11            7.6 Polynomials p 427 #6            8.7 Rational p 202 #6, -11            13.3 Trig p 763: 1, 2, 3-10</p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

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Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — FUNCTIONS (F)

### Building Functions (F-BF)

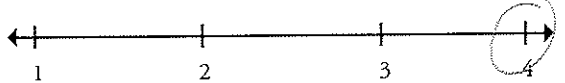


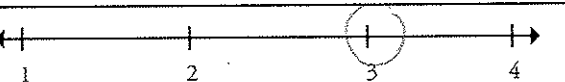
Build new functions from existing functions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>F-BF.4a</b></p> <p>4. Find inverse functions.</p> <p>a. Solve an equation of the form <math>f(x) = c</math> for a simple function <math>f</math> that has an inverse and write an expression for the inverse. <i>For example, <math>f(x) = 2x^3</math> or <math>f(x) = (x+1)/(x-1)</math> for <math>x \neq 1</math>.</i></p> <p>Note: Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types.</p> <p><i>Sec 5.5 : 1-4, 5-9</i>  <i>7.4 : p 407 #14</i>  <i>7.6 : p 422 #14</i>  <i>7.8 ?</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

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Title of Instructional Materials: Key Curriculum

## ALGEBRA II — FUNCTIONS (F)

### Linear, Quadratic, and Exponential Models (F-LE)

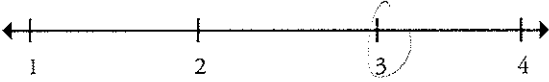
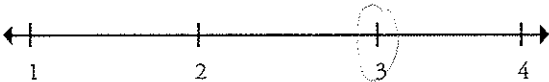
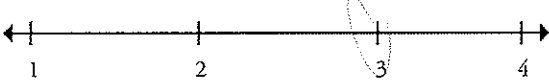
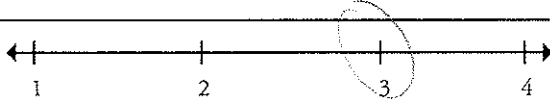
<p>Construct and compare linear, quadratic, and exponential models and solve problems.</p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p>
<p><b>F-LE.4</b></p> <p>For exponential models, express as a logarithm the solution to <math>ab^{ct} = d</math> where <math>a</math>, <math>c</math>, and <math>d</math> are numbers and the base <math>b</math> is 2, 10, or <math>e</math>; evaluate the logarithm using technology.*</p> <p>Note: Logarithms as solutions for exponentials.</p> <p><i>Sec 5.6: Log Function p 290 (EX 1-7)</i></p> <p><i>5.7: Properties of Logs p 296 (EX: 1-10)</i></p> <p><i>5.8: Appl of Logs p 303 (1-10)</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p><i>Investigation p 294 is good</i></p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p><i>log base e?</i></p> <p>Overall Rating </p>

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Title of Instructional Materials: \_\_\_\_\_


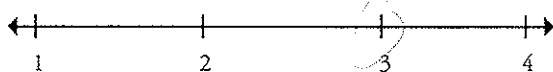
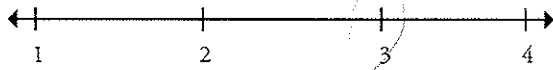
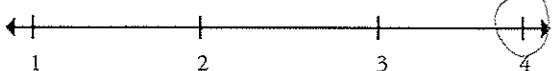
## ALGEBRA II — FUNCTIONS (F)

### Trigonometric Functions (F-TF)

<p><b>Extend the domain of trigonometric functions using the unit circle.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>F-TF.1</b></p> <p>Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.</p> <p><i>Sec 13.0 p 749: Investigation</i> <i>p 749: EX 1-6</i></p> <p><b>Indicate the chapter(s), section(s), and/or page(s) reviewed.</b></p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

## Key Conclusions

### Trigonometric Functions (F-TF)

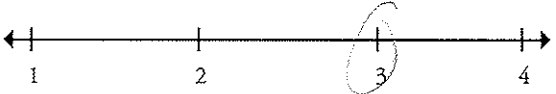
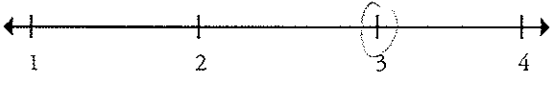

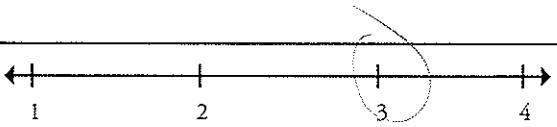
<p><b>Extend the domain of trigonometric functions using the unit circle.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>F-TF.2</b></p> <p>Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.</p> <p><i>Sec 13.1: trig functions</i>  <i>13.2: radian measure</i></p> <p><i>p 754: Exploration Circular Functions</i>  <i>(Explains what the sine graph will look like. Use Geometer's Sketch pad)</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p>
	<p>Overall Rating </p>

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Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — FUNCTIONS (F)

### Trigonometric Functions (F-TF)

<b>Model periodic phenomena with trigonometric functions.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<p><b>F-TF.5</b></p> <p>Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.*</p> <p><i>Lesson 13.5 Use G.C. to look at more complicated models</i></p> <p><i>13.3: Graph Sine &amp; Cosine</i></p> <p><i>Eg. 5's are asked to describe amp, per, p.s. and vertical shift.</i></p> <p><i>p 763 or 142</i></p> <p><b>Indicate the chapter(s), section(s), and/or page(s) reviewed.</b></p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

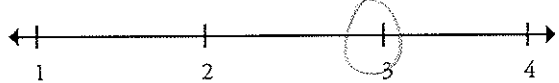
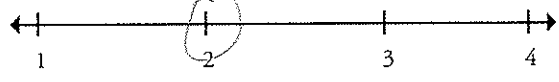




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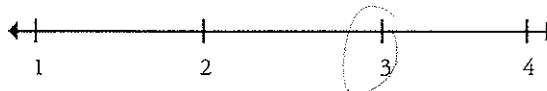

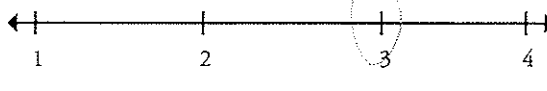
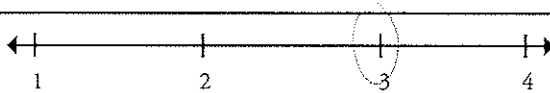
Title of Instructional Materials: Key Curriculum

**ALGEBRA II — FUNCTIONS (F)**

**Trigonometric Functions (F-TF)**


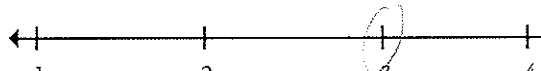
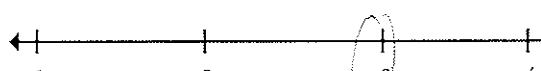
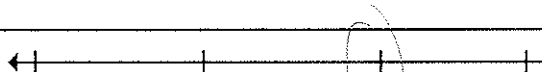
<p><b>Prove and apply trigonometric identities.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>F-TF.8</b></p> <p>Prove the Pythagorean identity <math>\sin^2(\theta) + \cos^2(\theta) = 1</math> and use it to find <math>\sin(\theta)</math>, <math>\cos(\theta)</math>, or <math>\tan(\theta)</math> given <math>\sin(\theta)</math>, <math>\cos(\theta)</math>, or <math>\tan(\theta)</math> and the quadrant of the angle.</p> <p><i>Sec 13.6 p 784 Investigation p 785</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><i>determine quadrants of an angle</i></p> <p><b>Overall Rating</b> </p>

## Interpreting Categorical and Quantitative Data (S-ID)

Summarize, represent, and interpret data on a single count or measurement variable.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>S-ID.4</b></p> <p>Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use <u>calculators</u>, <u>spreadsheets</u>, and <u>tables</u> to estimate areas under the normal curve.</p> <p><i>Sec 11.2</i></p> <p><i>11.3 p 637: Investigation EX: 1-12</i></p> <p><i>11.4</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>

## 16. Conclusion

### Making Inferences and Justifying Conclusions (S-IC)



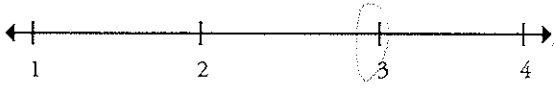
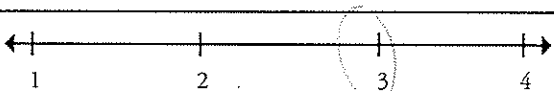
<p><b>Understand and evaluate random processes underlying statistical experiments.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>S-IC.1</b></p> <p>Understand statistics as a process for making inferences about population parameters based on a random sample from that population.</p> <p><i>Sec 11.1: Designing an experiment</i></p> <p><i>11.2: probability distributions</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — STATISTICS AND PROBABILITY (S)

### Making Inferences and Justifying Conclusions (S-IC)

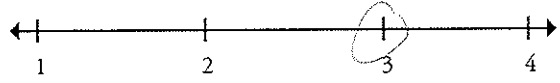
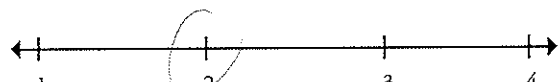

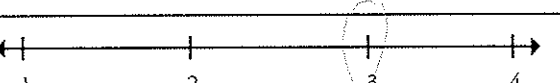
<p>Understand and evaluate random processes underlying statistical experiments.</p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p>
<p><b>S-IC.2</b></p> <p>Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. <i>For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?</i></p> <p><i>Sec 10.1 Exp + The Prob. p 553: 1 – 15</i></p> <p><i>10.4 p 579: Investigation p 582: 1 – 11</i></p> <p><i>p : Exploration: Law of large Numbers</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Key Curriculum

**ALGEBRA II — STATISTICS AND PROBABILITY (S)**

**Making Inferences and Justifying Conclusions (S-IC)**

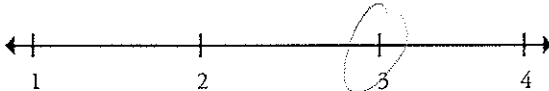

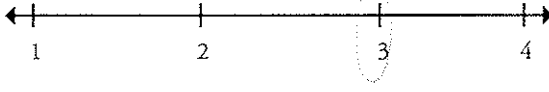
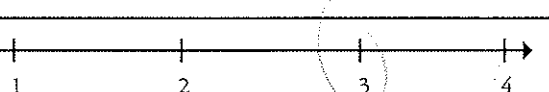
<p><b>Make inferences and justify conclusions from sample surveys, experiments, and observational studies.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>S-IC.3</b></p> <p>Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.</p> <p><i>Sec 11.1 p619: Investigation</i>  <i>p620 EX A</i>  <i>p621 EX B</i>  <i>p622: EX: 1-6, 8-10</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — STATISTICS AND PROBABILITY (S)

### Making Inferences and Justifying Conclusions (S-IC)

Make inferences and justify conclusions from sample surveys, experiments, and observational studies.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>S-IC.4</b></p> <p>Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.</p> <p><i>Sec 11.4 p 646: Ex A } Confidence Interval</i>  <i>p 648: Ex B } Margin of Error</i>  <i>p 649: Ex 1-12</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Key Curriculum

## ALGEBRA II — STATISTICS AND PROBABILITY (S)

### Making Inferences and Justifying Conclusions (S-IC)

Make inferences and justify conclusions from sample surveys, experiments, and observational studies.

#### S-IC.5

Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.

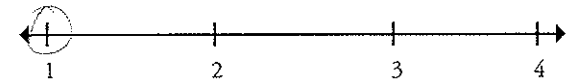
*Student explore results of simulation models from Chp 11 but it's not explicitly covered*

Indicate the chapter(s), section(s), and/or page(s) reviewed.

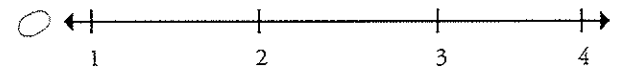
*Chp 11*

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

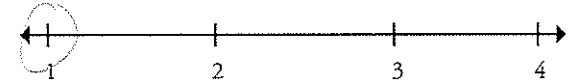
Important Mathematical Ideas



Skills and Procedures



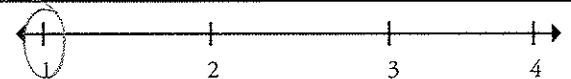
Mathematical Relationships



Summary / Justification / Evidence

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

Overall Rating

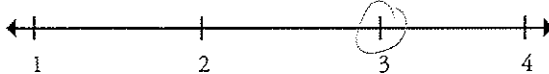
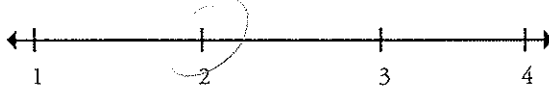
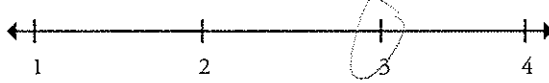



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — STATISTICS AND PROBABILITY (S)

### Making Inferences and Justifying Conclusions (S-IC)

<p>Make inferences and justify conclusions from sample surveys, experiments, and observational studies.</p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p>
<p><b>S-IC.6</b> Evaluate reports based on data.</p> <p><i>Chp 11: Simpson's Paradox Project p633 Generate Report based on data</i></p> <p><i>p663: Correlation VS Causation Project Analyzing Data - Might evaluate a report</i></p> <p><i>Sec 11.6 Least Squares Line p665: Investigation</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p><i>S's are evaluating data, not reports</i></p> <p>Overall Rating </p>



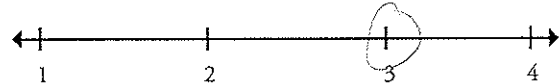
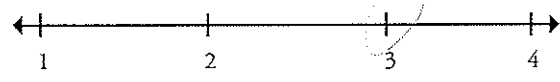
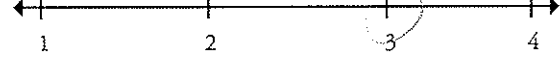

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

*Key Curriculum*

## ALGEBRA II — STATISTICS AND PROBABILITY (S)

### Using Probability to Make Decisions (S-MD)

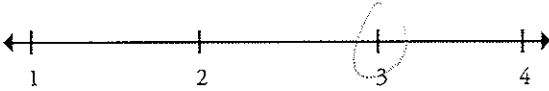
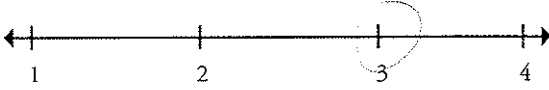
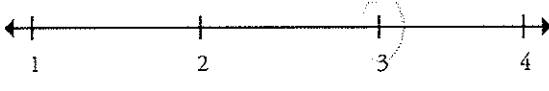
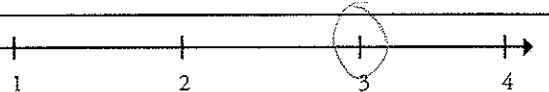
Use probability to evaluate outcomes of decisions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>S-MD.6</b></p> <p>(+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).</p> <p>Note: Include more complex situations.</p> <p><i>Sec 10.1 p 549: Investigation p. 549-550 Randomness &amp; Probability EX 1-15</i></p> <p><i>10.4 Random Variables &amp; Expected Value p 579: Investigation EX 1-12</i></p> <p><i>10.6 p 595 EXA p 600 EX 10, 13</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — STATISTICS AND PROBABILITY (S)

### Using Probability to Make Decisions (S-MD)

Use probability to evaluate outcomes of decisions	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p><b>S-MD.7</b></p> <p>(+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).</p> <p>Note: Include more complex situations.</p> <p>10.4: p 579: Investigation</p> <p>10.7: p 604 ex B, ex C, ex: 1-16</p> <p>11.1: p 622: ex 5, 6</p> <p>11.3: p 640: ex 7, 11</p> <p>11.4: p 650: ex 5 - 12</p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b> </p> <p><b>Skills and Procedures</b> </p> <p><b>Mathematical Relationships</b> </p> <p><b>Summary / Justification / Evidence</b></p>
	<p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p> <p><b>Overall Rating</b> </p>

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: Discovering Advanced Algebra  
by Curriculum Press

## Documenting Alignment to the Standards for Mathematical Practice

### 1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Indicate the chapter(s), section(s), or page(s) reviewed.

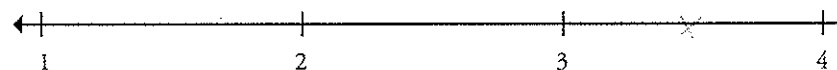
p. 153 - 180  
p. 250 - 308

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

This book has a lot of focus on "reasoning" and checking to see if results "make sense".

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 2. Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

Indicate the chapter(s), section(s), or page(s) reviewed.

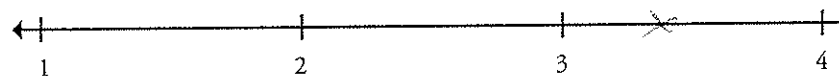
p. 153 - 180  
p. 250 - 308

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Students are continuously led through a reasoning process

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 3. Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Indicate the chapter(s), section(s), or page(s) reviewed.

p. 153-180

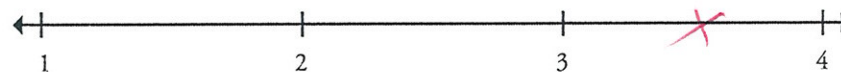
p. 250-308

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Students are continually asked to justify their reasoning and explain their answers

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 4. Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Indicate the chapter(s), section(s), or page(s) reviewed.

p. 153-180

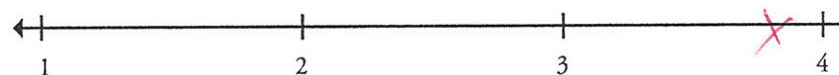
p. 250-308

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Modelling real-life is a general theme of this book

Overall Rating





Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 5. Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

Indicate the chapter(s), section(s), or page(s) reviewed.

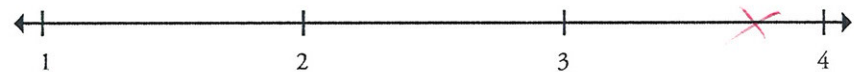
p. 153 - 180  
p. 250 - 308

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Students are given many "Investigations" with data collection. They are also directed to use graphing calculator in practice exercises.

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 6. Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Indicate the chapter(s), section(s), or page(s) reviewed.

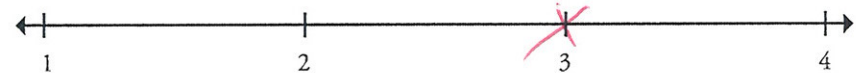
p. 89-92  
p. 153-180  
p. 250-308

Summary/Justification/Evidence

p. 89-92 Students are given an explanation on this topic. This exercise seems to be propagated throughout the text.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Overall Rating





Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 7. Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see  $7 \times 8$  equals the well remembered  $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression  $x^2 + 9x + 14$ , older students can see the 14 as  $2 \times 7$  and the 9 as  $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see  $5 - 3(x - y)^2$  as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers  $x$  and  $y$ .

Indicate the chapter(s), section(s), or page(s) reviewed.

p. 153-180

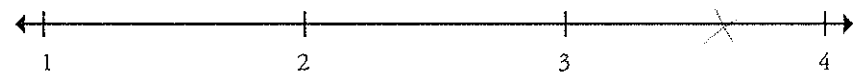
p. 250-308

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Each section seems to have an investigation to develop and use patterns and structure to set up the lesson

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 8. Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation  $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding  $(x - 1)(x + 1)$ ,  $(x - 1)(x^2 + x + 1)$ , and  $(x - 1)(x^3 + x^2 + x + 1)$  might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

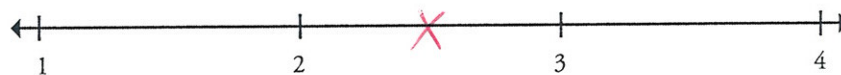
Indicate the chapter(s), section(s), or page(s) reviewed.

p. 183-180  
p. 250-308

Summary/Justification/Evidence


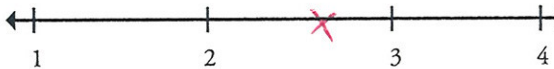
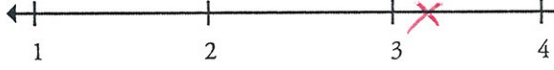
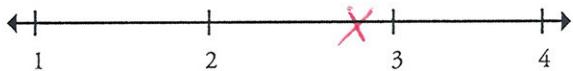
Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Overall Rating



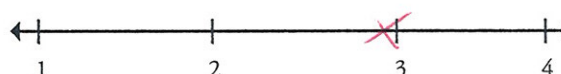
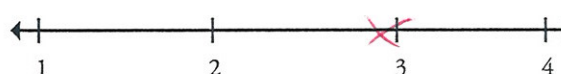
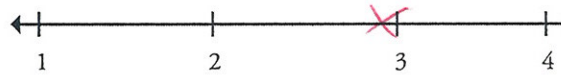
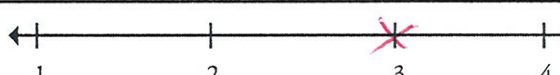
Title of Instructional Materials: \_\_\_\_\_

## The Complex Number System (N-CN)

<p><b>Perform arithmetic operations with complex numbers.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>N-CN.1</b></p> <p>Know there is a complex number <math>i</math> such that <math>i^2 = -1</math>, and every complex number has the form <math>a + bi</math> with <math>a</math> and <math>b</math> real.</p>          <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p style="color: red;">Chapter 7    Sect 5</p>	<div>Important Mathematical Ideas </div> <div>Skills and Procedures </div> <div>Mathematical Relationships </div> <div>Summary / Justification / Evidence</div>
	<p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p>    <div>Overall Rating </div>


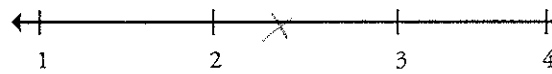

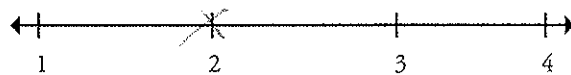
Title of Instructional Materials: \_\_\_\_\_

## The Complex Number System (N-CN)

<b>Perform arithmetic operations with complex numbers.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>N-CN.2</b> Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.  Note: $i^2$ as highest power of $i$ .	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence  <i>mostly thru student exercises</i> </p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p>
Indicate the chapter(s), section(s), and/or page(s) reviewed.  <i>Chapter 7 Sect 5</i>	<p>Overall Rating </p>

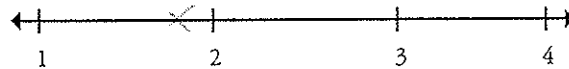
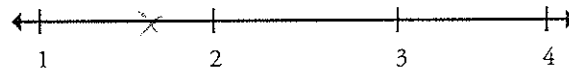
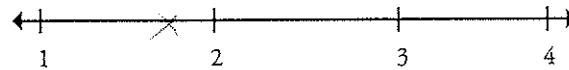
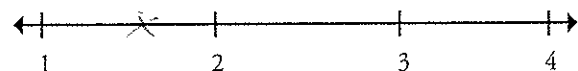
Title of Instructional Materials:

### The Complex Number System (N-CN)

<b>Use complex numbers in polynomial identities and equations.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>N-CN.7</b> Solve quadratic equations with real coefficients that have complex solutions. <i>Note: Polynomials with real coefficients.</i>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
Indicate the chapter(s), section(s), and/or page(s) reviewed.  <i>Ch. 7    Sect 5</i>	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):  <i>only 1 example provided w/ very little discussion</i></p>
	Overall Rating 

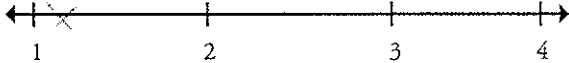


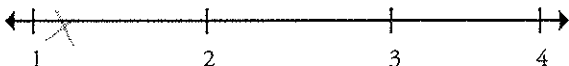
Title of Instructional Materials: \_\_\_\_\_

### The Complex Number System (N-CN)

Use complex numbers in polynomial identities and equations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p>N-CN.8</p> <p>(+) Extend polynomial identities to the complex numbers. <i>For example, rewrite <math>x^2 + 4</math> as <math>(x + 2i)(x - 2i)</math>.</i></p> <p>Note: Polynomials with real coefficients.</p>       <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p>Ch. 7 Sect 5</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Student's attention is only directly directed to these relationships as an investigation</p>
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Relationships are alluded to, but not developed
	Overall Rating 

Title of Instructional Materials: \_\_\_\_\_

### The Complex Number System (N-CN)

<b>Use complex numbers in polynomial identities and equations.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>N-CN.9</b> (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.  <i>Note: Polynomials with real coefficients.</i>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p><b>Summary / Justification / Evidence</b>  <i>Basically non-existent as the FTA. Some conjectures were made.</i> </p> <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <i>The FTA is not even mentioned</i> </p> <p><b>Overall Rating</b> </p>
<b>Indicate the chapter(s), section(s), and/or page(s) reviewed.</b>  <i>Sect 7.7</i>	



Title of Instructional Materials: \_\_\_\_\_

### Building Functions (F-BF)

Build a function that models a relationship between two quantities.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p>F-BF.1b</p> <ol style="list-style-type: none"> <li>1. Write a function that describes a relationship between two quantities.*             <ol style="list-style-type: none"> <li>b. Combine standard function types using arithmetic operations. <i>For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.</i></li> </ol> </li> </ol> <p>Note: Include all types of functions studied.</p>  <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p>Sect 5.4-5.5 p. 275-286</p>	<div>Important Mathematical Ideas</div> <div>Skills and Procedures</div> <div>Mathematical Relationships</div> <div>Summary / Justification / Evidence</div> <p>met thru example B and the reason and apply problems</p>
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

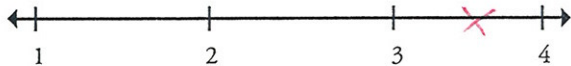
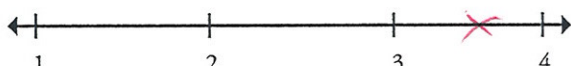

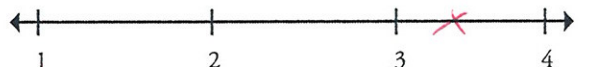


Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — FUNCTIONS (F)

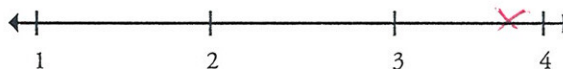
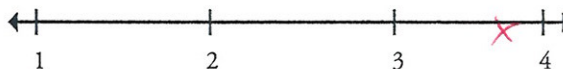
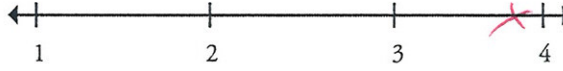
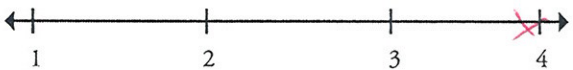
### Building Functions (F-BF)

<p><b>Build new functions from existing functions.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>F-BF.3</b></p> <p>Identify the effect on the graph of replacing <math>f(x)</math> by <math>f(x) + k</math>, <math>k f(x)</math>, <math>f(kx)</math>, and <math>f(x + k)</math> for specific values of <math>k</math> (both positive and negative); find the value of <math>k</math> given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. <i>Include recognizing even and odd functions from their graphs and algebraic expressions for them.</i></p> <p>Note: Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types.</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
<p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p><i>Chapter 4</i></p> <p><i>p. 205 - 248</i></p>	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p><i>The only mention of even/odd functions is in a section after the Chapter review</i></p> <p>Overall Rating </p>

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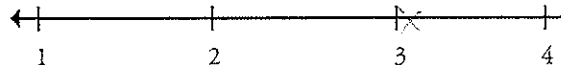
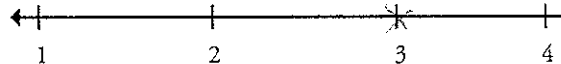
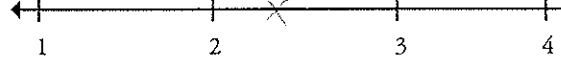
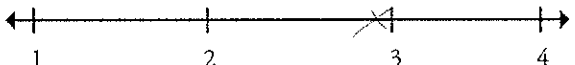
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### Building Functions (F-BF)

<b>Build new functions from existing functions.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>F-BF.4a</b> 4. Find inverse functions. a. Solve an equation of the form $f(x) = c$ for a simple function $f$ that has an inverse and write an expression for the inverse. <i>For example,</i> $f(x) = 2x^3$ or $f(x) = (x+1)/(x-1)$ for $x \neq 1$ .  <i>Note: Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types.</i>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence  <i>Very well developed thru investigation and real-life applications</i> </p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p>
<b>Indicate the chapter(s), section(s), and/or page(s) reviewed.</b>  <i>Section 5.5 p. 280 - 286</i>	<p>Overall Rating </p>

Title of Instructional Materials:

### Linear, Quadratic, and Exponential Models (F-LE)

Construct and compare linear, quadratic, and exponential models and solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<p>F-LE.4</p> <p>For exponential models, express as a logarithm the solution to <math>ab^{ct} = d</math> where <math>a</math>, <math>c</math>, and <math>d</math> are numbers and the base <math>b</math> is 2, 10, or <math>e</math>; evaluate the logarithm using technology.*</p> <p>Note: Logarithms as solutions for exponentials.</p>          <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p>p. 287 - 312</p>	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p>
	<p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p><i>e</i> is only used in an exploration at the end of ch. 5, then in 1 problem w/ binomial expansion, and only once more w/ the normal distribution</p> <p>Overall Rating </p>

## Instructional Materials Analysis and Selection

Phase 3: Assessing Content Alignment to the  
Common Core State Standards for Mathematics

Traditional Pathway for High School: Algebra II



a project of  
The Charles A. Dana Center  
at The University of Texas at Austin

Frontmatter

### Instructional Materials Analysis and Selection Assessing Content Alignment to the Common Core State Standards for Mathematics

This tool provides educators with a structured way to make informed decisions when selecting mathematics instructional materials. In particular, it can help you become more knowledgeable about the Common Core State Standards for Mathematics so you can select instructional materials aligned with these standards. This resource can also be used with the Dana Center's larger 4-phase Instructional Materials Analysis and Selection toolset: Phase 1: Studying the Standards, Phase 2: Narrowing the Field of Instructional Materials, Phase 3: Assessing Subject-Area Content Alignment, and Phase 4: Assessing Vertical Alignment of Instructional Materials. The particular resource you hold is a phase 3 tool that has been customized for assessing the alignment of instructional materials with the Common Core State Standards for Mathematics. Note that in 2009, the Dana Center developed a similar tool for Indiana educators to use in analyzing the alignment of instructional materials to Indiana's Academic Standards for Mathematics.

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Discovering Adv. Alg.  
Key Curriculum Press

## Instructional Materials Analysis and Selection

Phase 3:

Assessing Content Alignment to the Common Core State Standards for Mathematics

Summary Evaluation: I think the method & quality of writing is great! However, the text assumes too much about students' prior knowledge to be an effective book by itself w/ no supplemental materials. This would be a great text for a High Ability class.

A project of  
The Indiana Education Roundtable, The Indiana Department of Education,  
and  
The Charles A. Dana Center at The University of Texas at Austin

2010-2011

Frontmatter

### About the development of this resource

This tool, *Instructional Materials Analysis and Selection: Assessing Content Alignment to the Common Core State Standards for Mathematics*, draws on the Dana Center's nearly 20 years of experience in strengthening education and has been used extensively in Texas and, increasingly, other states, to help local school districts and schools select instructional materials aligned with their standards. Development and production of the Instructional Materials Analysis toolset was supported by the Charles A. Dana Center.

This resource consists of a set of 15 individual grade-level / course documents that span kindergarten through the third year of high school mathematics. There is a document for each grade from kindergarten through 8, and six documents for high school mathematics (one each for the three courses in the traditional high school pathway Algebra I, Geometry, Algebra II; and one each for the three courses in the integrated high school pathway Mathematics I, Mathematics II, and Mathematics III). At the request of various states and other entities, the Dana Center has populated this *Instructional Materials Analysis and Selection* tool with standards from the Common Core State Standards for Mathematics for use by local districts in selecting instructional materials aligned with these standards.

Note that the copyright of the Common Core State Standards for Mathematics is held by the National Governors Association Center for Best Practices and the Council of Chief State School Officers (collectively, NGA Center/CCSSO). This use of the CCSS for Mathematics is done under the CCSS Terms of Use, available at [www.corestandards.org/terms-of-use](http://www.corestandards.org/terms-of-use). Specifically, this work is done under the Terms of Use "non-exclusive, royalty-free license to copy, publish, distribute, and display the Common Core State Standards for non-commercial purposes that support the Common Core State Standards Initiative." For a complete copy of the Common Core State Standards for Mathematics as well as the CCSS for Mathematics, Appendix A: Designing high school mathematics courses based on the Common Core State Standards, go to [www.corestandards.org/the-standards](http://www.corestandards.org/the-standards).

October 2010 release.

We welcome your comments and suggestions for improvements—please send to [dana.danohop@utexas.edu](mailto:dana.danohop@utexas.edu) or the address in the copyright section above.

### About the Charles A. Dana Center at The University of Texas at Austin

The Dana Center works to raise student achievement in K-16 mathematics and science, especially for historically underserved populations. We do so by providing direct service to school districts and institutions of higher education; to local, state, and national education leaders; and to agencies, nonprofits, and professional organizations concerned with strengthening American education.

The Center was founded in 1991 at The University of Texas at Austin. We carry out our work by supporting high standards and building system capacity; collaborating with key state and national organizations to address emerging issues; creating and delivering professional supports for educators and education leaders; and writing and publishing education resources, including student supports. Our staff of more than 60 has worked with dozens of school systems in nearly 20 states and with 90 percent of Texas's more than 1,000 school districts. We are committed to ensuring that the accident of where a child attends school does not limit the academic opportunities he or she can pursue.

For more information about our programs and resources, see our homepage at [www.danacenter.org](http://www.danacenter.org). To access our resources (many of them free), see our products index at [www.danacenter.org/products](http://www.danacenter.org/products). And to learn more about our professional development—and sign up online—go to [www.danacenter.org/pep](http://www.danacenter.org/pep).

\*For the high school course sequences, we relied on the Common Core State Standards Mathematics Appendix A: Designing High School Mathematics Courses Based on the Common Core State Standards, developed for the CCSS initiative by Achieve, Inc., which convened and managed the Achieve Pathways Group.

## Acknowledgments

Unless otherwise noted, all staff listed here are affiliated with the Dana Center.

### Project director

Laurie Garland, director of program and product development  
Sam Zigmont, senior advisor

### Developers and facilitators

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Laurie Garland, director of program and product development  
Tom McVey, professional development team lead  
Sam Zigmont, senior advisor

### Our thanks

We gratefully acknowledge the more than 100 school districts and thousands of educators who have informed the development of these resources.

### Editorial and production staff

Cara Hopkins, proofreader  
Rachel Jenkins, consulting editor  
Tom McVey, professional development team lead and print production manager  
Phil Swann, senior designer

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## Introduction

### Phase 1: Studying the Standards

### Phase 2: Narrowing the Field of Instructional Materials

### Phase 3: Assessing Mathematical Content Alignment

The purpose of Phase 3: Assessing Mathematical Content Alignment is to determine the degree to which the materials are aligned to the standards (content and processes). In Phase 3, participants conduct an in-depth review of the 2-3 instructional materials selected in Phase 2. The Phase 3 process requires selection committee members to use set criteria in order to determine a rating for each sample, to cite examples to justify their score for each sample, and to document standards that are missing or not well-developed in the instructional materials examined.

#### Implementation

As a whole group, selection committee members should practice applying the Phase 3 rubric. The purpose of the whole group practice is to promote inter-rater reliability and calibration.

In Phase 3 it is not important to analyze every page, section, or chapter of a resource. It is important to identify an area, topic, or big idea for the deep content analysis of Phase 3 (e.g. development of equivalent fractions, addition of whole numbers, development of proportionality...). The identified area, topic, or big idea will be used for all the instructional materials considered in Phase 3. The area, topic, or big idea can be identified through the use of student achievement data, curriculum priorities/challenges, or ideas that typically make up a greater portion of instruction in particular grade levels/courses. In most cases, Phase 3 will identify the one resource that is best aligned.

#### Step-by-Step Instructions

1. Use your current adoption to practice using the Phase 3 rubric. Select one big idea to focus your analysis (see note above for selecting the area, topic, or big idea).
2. Independently, committee members use their current resource, the identified big idea (and associated pages in that resource), and the Phase 3 rubric to score and document the extent to which the material (content and processes) aligns to the standards.
3. In small groups, committee members share their scoring and justifications. Small groups come to consensus on how the current resource would score on this big idea.
4. Each small group shares with the large group their score. Repeat the consensus building to generate a large group score on this big idea.
5. Clarify any misunderstandings about how to apply the rubric before committee members begin to use Phase 3 rubric on the selected materials.

6. Based on the size of the selection committee, determine the number of areas, topics, or big ideas to be examined for each grade/course. If the group size is large, more areas, topics, big ideas can be examined within each grade level/course.
7. Make sure committee members have multiple copies of the Phase 3 rubric.
8. Committee members apply the Phase 3 rubric for each of the materials.
9. Establish a time line for groups to complete and submit Phase 3 documentation.
10. Establish a data collection and analysis process to attain a rating for each resource.

#### Materials and Supplies

- Phase 3: Assessing Mathematical Content Alignment black line master — multiple copies per person
- Currently used instructional resource
- The 2 to 4 instructional materials selected in Phase 2

### Phase 4: Assessing Vertical Alignment of Instructional Materials

**Important Mathematical Ideas:**  
Understanding the scoring

	← 1 2 3 4 →
Development	<p>Important mathematical ideas are alluded to simply or are missing, approached primarily from a skill level, or provided for students outside any context.</p> <p>Important mathematical ideas are evident, conceptually developed, and emerge within the context of real-world examples, interesting problems, application situations, or student investigations.</p>
Connections	<p>Important mathematical ideas are developed independently of each other (i.e., they are discrete, independent ideas).</p> <p>Important mathematical ideas are developed by expanding and connecting to other important mathematical ideas in such a way as to build understanding of mathematics as a unified whole.</p>
Rigor and Depth	<p>Important mathematical ideas are applied in routine problems or in using formulated procedures, and are extended in separate optional problems.</p> <p>Important mathematical ideas are applied and extended in novel situations or embedded in the content, requiring the extension of important mathematical ideas and the use of multiple approaches.</p>

**Skills and Procedures:**  
Understanding the scoring

	← 1 2 3 4 →
Development	<p>Skills and procedures are the primary focus, are developed without conceptual understanding, and are loosely connected to important mathematical ideas — important mathematical ideas are adjunct.</p> <p>Skills and procedures are integrated with important mathematical ideas and are presented as important tools in applying and understanding important mathematical ideas.</p>
Connections	<p>Skills and procedures are treated as discrete skills rarely connected to important mathematical ideas or other skills and procedures.</p> <p>Skills and procedures are integrated with—and consistently connected to—important mathematical ideas and other skills and procedures.</p>
Rigor and Depth	<p>Skills and procedures are practiced without conceptual understanding outside any context, do not require the use of important mathematical ideas, and are primarily practiced in rote exercises and drill.</p> <p>Skills and procedures are critical to the application and understanding of important mathematical ideas, and are embedded in problem situations.</p>

**Mathematical Relationships:**  
Understanding the scoring

	← 1 2 3 4 →
Development	<p>Mathematical relationships are not evident, and mathematics appears as a series of discrete skills and ideas.</p> <p>Mathematical relationships are evident in such a way as to build understanding of mathematics as a unified whole.</p>
Connections	<p>Mathematical relationships are not required of students or are used primarily to provide a context for the practice of skills or procedures — words wrapped around drill.</p> <p>Mathematical relationships are integrated with important mathematical ideas, and are integral in required activities, problems, and applications.</p>
Rigor and Depth	<p>Mathematical relationships require the use of skills and procedures, but rarely require the use of any important mathematical ideas or connections outside mathematics.</p> <p>Mathematical relationships require the broad use of mathematics and integrate the need for important mathematical ideas, skills, and procedures, as well as connections outside mathematics.</p>

**Documenting Alignment to the  
Standards for Mathematical Practice**

Reviewed By: \_\_\_\_\_  
Title of Instructional Materials: \_\_\_\_\_

**1. Make sense of problems and persevere in solving them.**

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

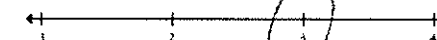
*Layout is so much better  
Somehow text could intimidate student;  
good explanations of examples*

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 2. Reason abstractly and quantitatively.

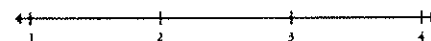
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



The Charles A. Dana Center

7

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 4. Model with mathematics.

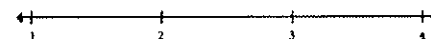
Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



The Charles A. Dana Center

9

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 3. Construct viable arguments and critique the reasoning of others.

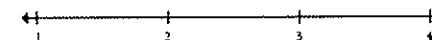
Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



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8

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## Documenting Alignment to the Standards for Mathematical Practice

### 5. Use appropriate tools strategically.

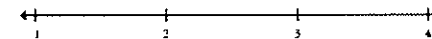
Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



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Title of Instructional Materials: \_\_\_\_\_

# Documenting Alignment to the Standards for Mathematical Practice

## 6. Attend to precision.

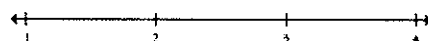
Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



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Title of Instructional Materials: \_\_\_\_\_

# Documenting Alignment to the Standards for Mathematical Practice

## 7. Look for and make use of structure.

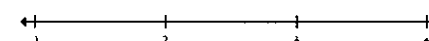
Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see  $7 \times 8$  equals the well remembered  $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression  $x^2 + 9x + 14$ , older students can see the 14 as  $2 \times 7$  and the 9 as  $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see  $5 - 3(x - y)^2$  as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers  $x$  and  $y$ .

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



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Title of Instructional Materials: \_\_\_\_\_

# Documenting Alignment to the Standards for Mathematical Practice

## 8. Look for and express regularity in repeated reasoning.

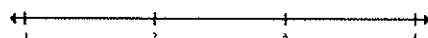
Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation  $(y - 2)(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding  $(x - 1)(x + 1)$ ,  $(x - 1)(x^2 + x + 1)$ , and  $(x - 1)(x^3 + x^2 + x + 1)$  might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



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Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

# ALGEBRA II — NUMBER AND QUANTITY (N)

## The Complex Number System (N-CN)

Perform arithmetic operations with complex numbers.

N-CN.1

Know there is a complex number  $i$  such that  $i^2 = -1$ , and every complex number has the form  $a + bi$  with  $a$  and  $b$  real.

Very nice findings w/  
history & art. Good  
visuals & explanation.

Indicate the chapter(s), section(s), and/or page(s) reviewed.

7-5

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

Important Mathematical Ideas

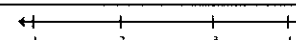
Skills and Procedures

Mathematical Relationships

Summary / Justification / Evidence

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

Overall Rating



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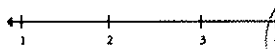
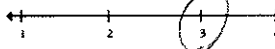
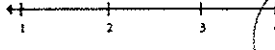
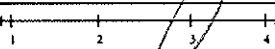
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Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

**ALGEBRA II — NUMBER AND QUANTITY (N)**  
**The Complex Number System (N-CN)**

<b>Perform arithmetic operations with complex numbers.</b>  <b>N-CN.2</b> Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers. Note: $i$ is the imaginary unit.  <i>No examples written out explicitly that address this std. but text encourages student to try on his/her own.</i>  Indicate the chapter(s), section(s), and/or page(s) reviewed.  <div style="font-size: 2em; text-align: center;">7-5</div>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>  <b>Important Mathematical Ideas</b>  <b>Skills and Procedures</b>  <b>Mathematical Relationships</b>  <b>Summary / Justification / Evidence</b>  <b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <b>Overall Rating</b> 
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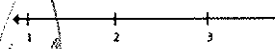
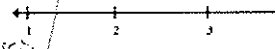
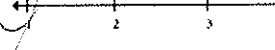
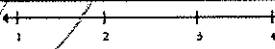
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Title of Instructional Materials: \_\_\_\_\_

**ALGEBRA II — NUMBER AND QUANTITY (N)**  
**The Complex Number System (N-CN)**

<b>Use complex numbers in polynomial identities and equations.</b>  <b>N-CN.7</b> Solve quadratic equations with real coefficients that have complex solutions. Note: Polynomials with real coefficients.  <i>7-8 is called More About Finding Soln's</i> <i>So I would anticipate a part of discussion being devoted to solving quadratics w/ soln's in C. No such luck.</i>  Indicate the chapter(s), section(s), and/or page(s) reviewed.  <div style="font-size: 2em; text-align: center;">7-8</div>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>  <b>Important Mathematical Ideas</b>  <b>Skills and Procedures</b>  <b>Mathematical Relationships</b>  <b>Summary / Justification / Evidence</b>  <b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <b>Overall Rating</b> 
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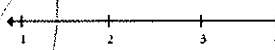
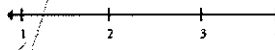
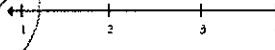
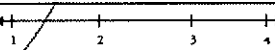
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Title of Instructional Materials: \_\_\_\_\_

**ALGEBRA II — NUMBER AND QUANTITY (N)**  
**The Complex Number System (N-CN)**

<b>Use complex numbers in polynomial identities and equations.</b>  <b>N-CN.8</b> (+) Extend polynomial identities to the complex numbers. For example, rewrite $x^2 + 4$ as $(x + 2i)(x - 2i)$ . Note: Polynomials with real coefficients.  <i>Text has 1 problem that relates to this std in some manner pg 413 #6</i> <i>Section 7-6 does not even include polynomials found exclusively in</i> Indicate the chapter(s), section(s), and/or page(s) reviewed.  <div style="font-size: 2em; text-align: center;">7-5 7-6</div>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>  <b>Important Mathematical Ideas</b>  <b>Skills and Procedures</b>  <b>Mathematical Relationships</b>  <b>Summary / Justification / Evidence</b>  <b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b> <i>I even though the section prior to it discussed it!</i> <b>Overall Rating</b> 
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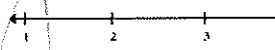
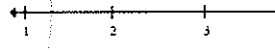
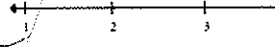
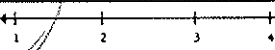
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Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

**ALGEBRA II — NUMBER AND QUANTITY (N)**  
**The Complex Number System (N-CN)**

<b>Use complex numbers in polynomial identities and equations.</b>  <b>N-CN.9</b> (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials. Note: Polynomials with real coefficients.  <i>F.T.A not addressed, but the rat'l root thm is.</i>  Indicate the chapter(s), section(s), and/or page(s) reviewed.  <div style="font-size: 2em; text-align: center;">7-8</div>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>  <b>Important Mathematical Ideas</b>  <b>Skills and Procedures</b>  <b>Mathematical Relationships</b>  <b>Summary / Justification / Evidence</b>  <b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <b>Overall Rating</b> 
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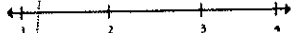
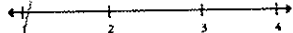
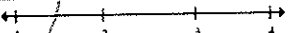
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Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — ALGEBRA (A)

## Arithmetic with Polynomials and Rational Expressions (A-APR)

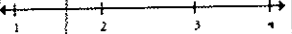
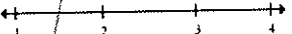
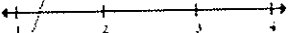
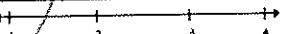
Perform arithmetic operations on polynomials.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>A-APR.1</b> Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. <i>Note: Beyond quadratic</i>  <div style="font-size: 2em; text-align: center;">N/A</div> Indicate the chapter(s), section(s), and/or page(s) reviewed.  <div style="font-size: 2em; text-align: center;">Ch 7</div>	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  Summary / Justification / Evidence  Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):  Overall Rating 

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — ALGEBRA (A)

## Arithmetic with Polynomials and Rational Expressions (A-APR)

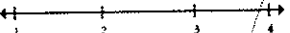
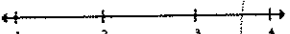
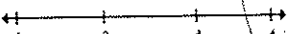
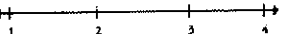
Understand the relationship between zeros and factors of polynomials.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>A-APR.2</b> Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number $a$ , the remainder on division by $x - a$ is $p(a)$ , so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$ .  <div style="font-size: 2em; text-align: center;">N/A</div> Indicate the chapter(s), section(s), and/or page(s) reviewed.  <div style="font-size: 2em; text-align: center;">Ch 7</div>	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  Summary / Justification / Evidence  Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):  Overall Rating 

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — ALGEBRA (A)

## Arithmetic with Polynomials and Rational Expressions (A-APR)

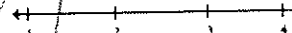
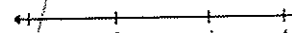
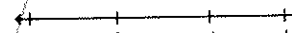
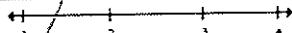
Understand the relationship between zeros and factors of polynomials.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>A-APR.3</b> Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.  <div style="font-size: 1.5em; text-align: center;">Good derivation of quad. formula &amp; definition of zeros of function.</div> Indicate the chapter(s), section(s), and/or page(s) reviewed.  <div style="font-size: 2em; text-align: center;">7-4</div>	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  Summary / Justification / Evidence  Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):  Overall Rating 

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Title of Instructional Materials: \_\_\_\_\_

## ALGEBRA II — ALGEBRA (A)

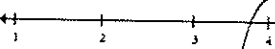
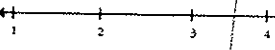
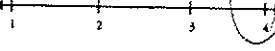
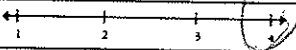
## Arithmetic with Polynomials and Rational Expressions (A-APR)

Use polynomial identities to solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>A-APR.4</b> Prove polynomial identities and use them to describe numerical relationships. For example, the polynomial identity $(x^2 + y)^2 = (x^2 - y)^2 + (2xy)^2$ can be used to generate Pythagorean triples.  <div style="font-size: 2em; text-align: center;">N/A</div> Indicate the chapter(s), section(s), and/or page(s) reviewed.  <div style="font-size: 2em; text-align: center;">Ch 7</div>	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  Summary / Justification / Evidence  Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):  Overall Rating 

Reviewed By: \_\_\_\_\_

Title of Instructional Materials: \_\_\_\_\_

**ALGEBRA II — ALGEBRA (A)**  
**Seeing Structure in Expressions (A-SSE)**

<p>Interpret the structure of expressions.</p> <p><b>A-SSE.1a</b></p> <p>1. Interpret expressions that represent a quantity in terms of its context.</p> <p>a. Interpret parts of an expression, such as terms, factors, and coefficients.</p> <p>Note: Polynomial and rational.</p> <p><i>Very good discussion as to why a degree of a polynomial behaves like it does.</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p><b>7-1</b></p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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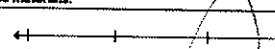
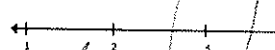
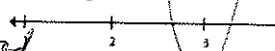

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**ALGEBRA II — ALGEBRA (A)**  
**Seeing Structure in Expressions (A-SSE)**

<p>Interpret the structure of expressions.</p> <p><b>A-SSE.1b</b></p> <p>1. Interpret expressions that represent a quantity in terms of its context.</p> <p>b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret <math>P(1+r)^t</math> as the product of <math>P</math> and a factor not depending on <math>P</math>.</p> <p>Note: Polynomial and rational.</p> <p><i>Text draws student problem is represented atth to how if a different forms, then student atth is <del>altered</del>.</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p><b>7-2</b></p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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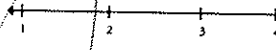


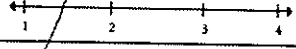
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**ALGEBRA II — ALGEBRA (A)**  
**Seeing Structure in Expressions (A-SSE)**

<p>Interpret the structure of expressions.</p> <p><b>A-SSE.2</b></p> <p>Use the structure of an expression to identify ways to rewrite it. For example, see <math>x^2 - y^2</math> as <math>(x^2) - (y^2)</math>; thus recognizing it as a difference of squares that can be factored as <math>(x - y)(x + y)</math>.</p> <p>Note: Polynomial and rational.</p> <p><i>Not addressed</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p><b>Ch 7</b></p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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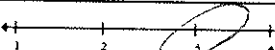
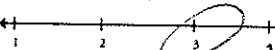
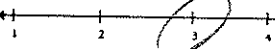

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**ALGEBRA II — ALGEBRA (A)**  
**Seeing Structure in Expressions (A-SSE)**

<p>Write expressions in equivalent forms to solve problems.</p> <p><b>A-SSE.4</b></p> <p>Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. For example, calculate mortgage payments.</p> <p><i>Good derivation of Gaussian formula, but no general derivation is offered.</i></p> <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p> <p><b>9.1</b></p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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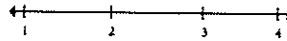
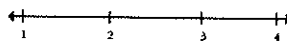
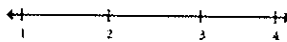
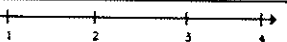
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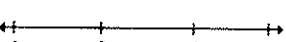
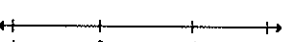
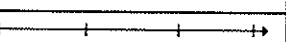
**ALGEBRA II — ALGEBRA (A)****Arithmetic with Polynomials and Rational Expressions (A-APR)**

Use polynomial identities to solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>A-APR.6</b> (+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of $x$ and $y$ for a positive integer $n$ , where $x$ and $y$ are any numbers, with coefficients determined for example by Pascal's Triangle. <sup>1</sup>	Important Mathematical Ideas 
	Skills and Procedures 
	Mathematical Relationships 
	Summary / Justification / Evidence
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 
1. The Binomial Theorem can be proved by mathematical induction or by a combinatorial argument. Indicate the chapter(s), section(s), and/or page(s) reviewed.	

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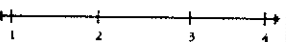
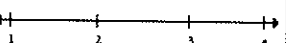
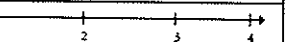
**ALGEBRA II — ALGEBRA (A)****Arithmetic with Polynomials and Rational Expressions (A-APR)**

Rewrite rational expressions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>A-APR.6</b> Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$ , where $a(x)$ , $b(x)$ , $q(x)$ , and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$ , using inspection, long division, or, for the more complicated examples, a computer algebra system. Note: Linear and quadratic denominators.	Important Mathematical Ideas 
	Skills and Procedures 
	Mathematical Relationships 
	Summary / Justification / Evidence
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
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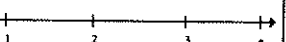


**ALGEBRA II — ALGEBRA (A)****Arithmetic with Polynomials and Rational Expressions (A-APR)**

Rewrite rational expressions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>A-APR.7</b> (+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions. Note: Linear and quadratic denominators.	Important Mathematical Ideas 
	Skills and Procedures 
	Mathematical Relationships 
	Summary / Justification / Evidence
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
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Indicate the chapter(s), section(s), and/or page(s) reviewed.	

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**ALGEBRA II — ALGEBRA (A)****Creating Equations (A-CED)**

Create equations that describe numbers or relationships.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>A-CED.1</b> Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions. Note: Equations using all available types of expressions, including simple root functions.	Important Mathematical Ideas 
	Skills and Procedures 
	Mathematical Relationships 
	Summary / Justification / Evidence
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
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Indicate the chapter(s), section(s), and/or page(s) reviewed.	

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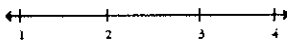
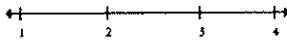
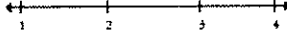
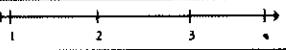
**ALGEBRA II — ALGEBRA (A)****Creating Equations (A-CED)**

<p>Create equations that describe numbers or relationships.</p> <p><b>A-CED.2</b> Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.* <i>Note: Equations using all available types of expressions, including simple root functions.</i></p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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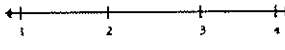
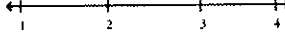

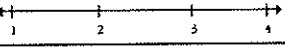
**ALGEBRA II — ALGEBRA (A)****Creating Equations (A-CED)**

<p>Create equations that describe numbers or relationships.</p> <p><b>A-CED.4</b> Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law <math>V = IR</math> to highlight resistance <math>R</math>.* <i>Note: Equations using all available types of expressions, including simple root functions.</i></p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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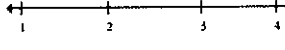

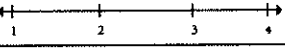
**ALGEBRA II — ALGEBRA (A)****Creating Equations (A-CED)**

<p>Create equations that describe numbers or relationships.</p> <p><b>A-CED.3</b> Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.* <i>Note: Equations using all available types of expressions, including simple root functions.</i></p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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**ALGEBRA II — ALGEBRA (A)****Reasoning with Equations and Inequalities (A-REI)**

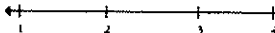
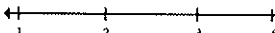
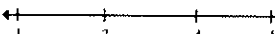
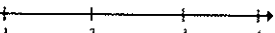
<p>Understand solving equations as a process of reasoning and explain the reasoning.</p> <p><b>A-REI.2</b> Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise. <i>Note: Simple radical and rational.</i></p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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## ALGEBRA II — ALGEBRA (A)

### Reasoning with Equations and Inequalities (A-REI)

<p>Represent and solve equations and inequalities graphically.</p> <p><b>A-REI.11</b></p> <p>Explain why the <math>x</math>-coordinates of the points where the graphs of the equations <math>y = f(x)</math> and <math>y = g(x)</math> intersect are the solutions of the equation <math>f(x) = g(x)</math>; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where <math>f(x)</math> and/or <math>g(x)</math> are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*</p> <p><i>Note: Combine polynomial, rational, radical, absolute value, and exponential functions.</i></p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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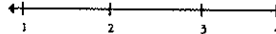
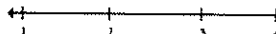
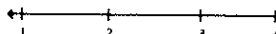
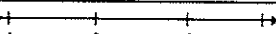
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## ALGEBRA II — FUNCTIONS (F)

### Interpreting Functions (F-IF)

<p>Interpret functions that arise in applications in terms of the context.</p> <p><b>F-IF.5</b></p> <p>Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function <math>h(n)</math> gives the number of person-hours it takes to assemble <math>n</math> engines in a factory, then the positive integers would be an appropriate domain for the function.*</p> <p><i>Note: Emphasize selection of appropriate models.</i></p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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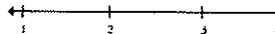
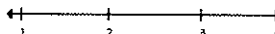
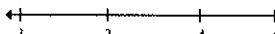
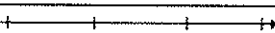
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## ALGEBRA II — FUNCTIONS (F)

### Interpreting Functions (F-IF)

<p>Interpret functions that arise in applications in terms of the context.</p> <p><b>F-IF.4</b></p> <p>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; and behavior, and periodicity.*</p> <p><i>Note: Include rational, square root and cube root; emphasize selection of appropriate models.</i></p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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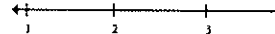
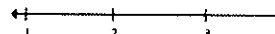
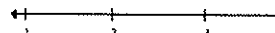
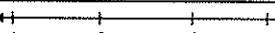
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## ALGEBRA II — FUNCTIONS (F)

### Interpreting Functions (F-IF)


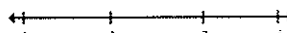
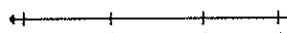
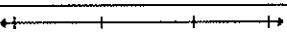
<p>Interpret functions that arise in applications in terms of the context.</p> <p><b>F-IF.8</b></p> <p>Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.*</p> <p><i>Note: Emphasize selection of appropriate models.</i></p>	<p>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</p> <p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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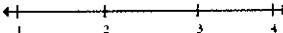
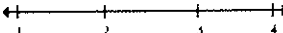
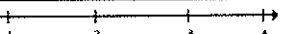
**ALGEBRA II — FUNCTIONS (F)****Interpreting Functions (F-IF)**

<b>Analyze functions using different representations.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>F-IF.7b</b> 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. Note: Focus on using key features to guide selection of appropriate type of model function.	<b>Important Mathematical Ideas</b>  <b>Skills and Procedures</b>  <b>Mathematical Relationships</b>  <b>Summary / Justification / Evidence</b>  <b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <b>Overall Rating</b> 
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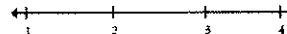
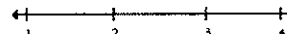
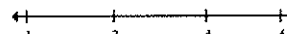
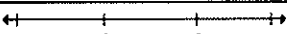
**ALGEBRA II — FUNCTIONS (F)****Interpreting Functions (F-IF)**

<b>Analyze functions using different representations.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>F-IF.7c</b> 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. Note: Focus on using key features to guide selection of appropriate type of model function.	<b>Important Mathematical Ideas</b>  <b>Skills and Procedures</b>  <b>Mathematical Relationships</b>  <b>Summary / Justification / Evidence</b>  <b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <b>Overall Rating</b> 
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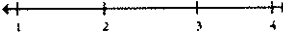
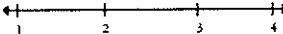
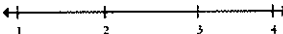
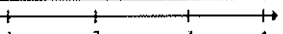
**ALGEBRA II — FUNCTIONS (F)****Interpreting Functions (F-IF)**

<b>Analyze functions using different representations.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>F-IF.7e</b> 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. Note: Focus on using key features to guide selection of appropriate type of model function.	<b>Important Mathematical Ideas</b>  <b>Skills and Procedures</b>  <b>Mathematical Relationships</b>  <b>Summary / Justification / Evidence</b>  <b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <b>Overall Rating</b> 
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**ALGEBRA II — FUNCTIONS (F)****Interpreting Functions (F-IF)**

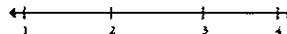
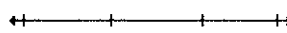

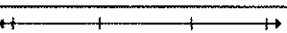
<b>Analyze functions using different representations.</b>	<b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b>
<b>F-IF.8a</b> 8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. Note: Focus on using key features to guide selection of appropriate type of model function.	<b>Important Mathematical Ideas</b>  <b>Skills and Procedures</b>  <b>Mathematical Relationships</b>  <b>Summary / Justification / Evidence</b>  <b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <b>Overall Rating</b> 
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## ALGEBRA II — FUNCTIONS (F)

## Interpreting Functions (F-IF)

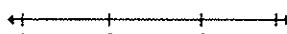


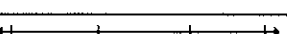
Analyze functions using different representations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>F-IF.8b</b> 8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. b. Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = (1.02)^x$ , $y = (0.97)^x$ , $y = (1.01)^{10x}$ , $y = (1.2)^{x/5}$ , and classify them as representing exponential growth or decay. Note: Focus on using key features to guide selection of appropriate type of model function.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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## ALGEBRA II — FUNCTIONS (F)

## Building Functions (F-BF)

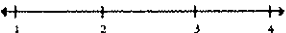
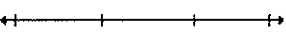

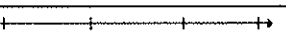
Build a function that models a relationship between two quantities.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>F-BF.1b</b> 1. Write a function that describes a relationship between two quantities.* b. Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model. Note: Include all types of functions studied.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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## ALGEBRA II — FUNCTIONS (F)

## Interpreting Functions (F-IF)

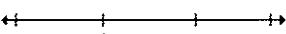


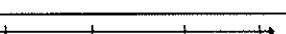
Analyze functions using different representations.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>F-IF.3</b> Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum. Note: Focus on using key features to guide selection of appropriate type of model function.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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## ALGEBRA II — FUNCTIONS (F)

## Building Functions (F-BF)

Build new functions from existing functions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>F-BF.3</b> Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$ , $k f(x)$ , $f(kx)$ , and $f(x + k)$ for specific values of $k$ (both positive and negative); find the value of $k$ given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them. Note: Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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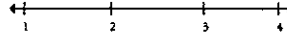

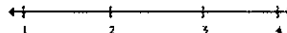
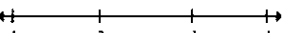


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## ALGEBRA II — FUNCTIONS (F)

## Building Functions (F-BF)

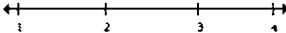
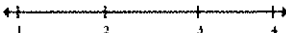
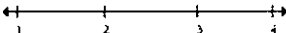
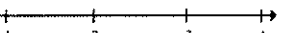
Build new functions from existing functions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>F-BF.4a</b> 4. Find inverse functions. a. Solve an equation of the form $f(x) = c$ for a simple function $f$ that has an inverse and write an expression for the inverse. For example, $f(x) = 2x^2$ or $f(x) = (x+1)/(x-1)$ for $x \neq 1$ . Note: Include simple radical, rational, and exponential functions; emphasize common effect of each transformation across function types.	<b>Important Mathematical Ideas</b>  <b>Skills and Procedures</b>  <b>Mathematical Relationships</b>  <b>Summary / Justification / Evidence</b>  <b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <b>Overall Rating</b> 
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## ALGEBRA II — FUNCTIONS (F)

## Linear, Quadratic, and Exponential Models (F-LE)

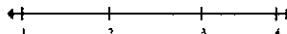
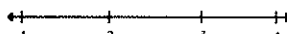
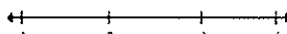
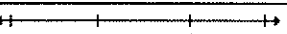
Construct and compare linear, quadratic, and exponential models and solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>F-LE.4</b> For exponential models, express as a logarithm the solution to $ab^t = d$ where $a$ , $c$ , and $d$ are numbers and the base $b$ is 2, 10, or $e$ ; evaluate the logarithm using technology.* Note: Logarithms as solutions for exponentials.	<b>Important Mathematical Ideas</b>  <b>Skills and Procedures</b>  <b>Mathematical Relationships</b>  <b>Summary / Justification / Evidence</b>  <b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <b>Overall Rating</b> 
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## ALGEBRA II — FUNCTIONS (F)

## Trigonometric Functions (F-TF)


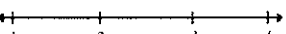

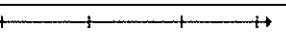
Extend the domain of trigonometric functions using the unit circle.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>F-TF.1</b> Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.	<b>Important Mathematical Ideas</b>  <b>Skills and Procedures</b>  <b>Mathematical Relationships</b>  <b>Summary / Justification / Evidence</b>  <b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <b>Overall Rating</b> 
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## ALGEBRA II — FUNCTIONS (F)

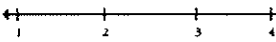

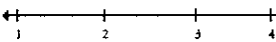
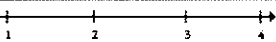
## Trigonometric Functions (F-TF)

Extend the domain of trigonometric functions using the unit circle.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>F-TF.2</b> Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.	<b>Important Mathematical Ideas</b>  <b>Skills and Procedures</b>  <b>Mathematical Relationships</b>  <b>Summary / Justification / Evidence</b>  <b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b>  <b>Overall Rating</b> 
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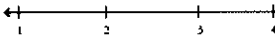
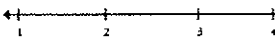
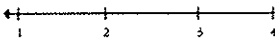
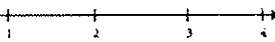
**ALGEBRA II — FUNCTIONS (F)****Trigonometric Functions (F-TF)**

Model periodic phenomena with trigonometric functions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
F-TF.5 Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
Indicate the chapter(s), section(s), and/or page(s) reviewed.	

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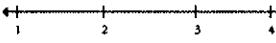

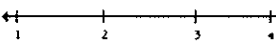
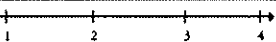
**ALGEBRA II — FUNCTIONS (F)****Trigonometric Functions (F-TF)**

Prove and apply trigonometric identities.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
F-TF.8 Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$ , $\cos(\theta)$ , or $\tan(\theta)$ given $\sin(\theta)$ , $\cos(\theta)$ , or $\tan(\theta)$ and the quadrant of the angle.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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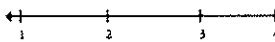
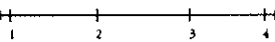
**ALGEBRA II — STATISTICS AND PROBABILITY (S)****Interpreting Categorical and Quantitative Data (S-ID)**

Summarize, represent, and interpret data on a single count or measurement variable.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
S-ID.4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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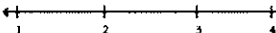

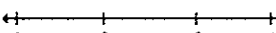
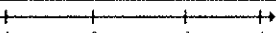
**ALGEBRA II — STATISTICS AND PROBABILITY (S)****Making Inferences and Justifying Conclusions (S-IC)**

Understand and evaluate random processes underlying statistical experiments.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
S-IC.1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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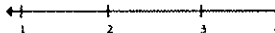

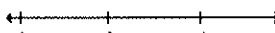
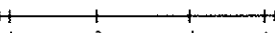
**ALGEBRA II — STATISTICS AND PROBABILITY (8)****Making Inferences and Justifying Conclusions (S-IC)**

Understand and evaluate random processes underlying statistical experiments.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>S-IC.2</b> Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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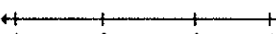
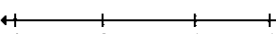
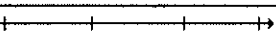
**ALGEBRA II — STATISTICS AND PROBABILITY (8)****Making Inferences and Justifying Conclusions (S-IC)**

Make inferences and justify conclusions from sample surveys, experiments, and observational studies.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>S-IC.3</b> Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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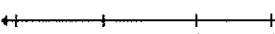
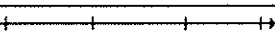
**ALGEBRA II — STATISTICS AND PROBABILITY (8)****Making Inferences and Justifying Conclusions (S-IC)**

Make inferences and justify conclusions from sample surveys, experiments, and observational studies.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>S-IC.4</b> Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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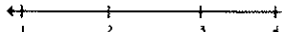
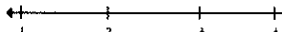
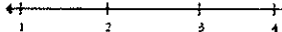
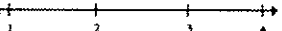
**ALGEBRA II — STATISTICS AND PROBABILITY (8)****Making Inferences and Justifying Conclusions (S-IC)**

Make inferences and justify conclusions from sample surveys, experiments, and observational studies.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
<b>S-IC.6</b> Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.	<p>Important Mathematical Ideas </p> <p>Skills and Procedures </p> <p>Mathematical Relationships </p> <p>Summary / Justification / Evidence</p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p> <p>Overall Rating </p>
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## ALGEBRA II — STATISTICS AND PROBABILITY (8)

### Making Inferences and Justifying Conclusions (S-IC)

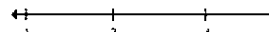
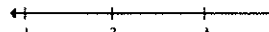
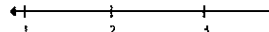
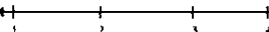
<p><b>Make inferences and justify conclusions from sample surveys, experiments, and observational studies.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Give examples from the materials.</b></p>
<p><b>S-IC.5</b></p> <p>Evaluate reports based on data.</p>          <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b></p>  <p><b>Skills and Procedures</b></p>  <p><b>Mathematical Relationships</b></p>  <p><b>Summary / Justification / Evidence</b></p>     <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p>     <p><b>Overall Rating</b></p> 

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## ALGEBRA II — STATISTICS AND PROBABILITY (S)

### Using Probability to Make Decisions (S-MD)

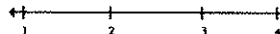
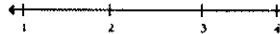
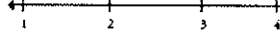
<p><b>Use probability to evaluate outcomes of decisions.</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>S-MD.6</b></p> <p>(+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).</p> <p>Note: Include more complex situations.</p>     <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b></p>  <p><b>Skills and Procedures</b></p>  <p><b>Mathematical Relationships</b></p>  <p><b>Summary / Justification / Evidence</b></p> <p>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</p>   <p><b>Overall Rating</b></p> 

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## ALGEBRA II — STATISTICS AND PROBABILITY (S)

### Using Probability to Make Decisions (S-MD)

<p><b>Use probability to evaluate outcomes of decisions</b></p>	<p><b>Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.</b></p>
<p><b>S-MD.7</b></p> <p>(+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).</p> <p><i>Note:</i> Include more complex situations.</p>          <p>Indicate the chapter(s), section(s), and/or page(s) reviewed.</p>	<p><b>Important Mathematical Ideas</b></p>  <p><b>Skills and Procedures</b></p>  <p><b>Mathematical Relationships</b></p>  <p><b>Summary / Justification / Evidence</b></p>          <p><b>Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):</b></p>          
	<p><b>Overall Rating</b></p> 